```
LDRPCI   r7,    C0
MOVRSP  r7
LDRPCI   r0,    C1
STRSPI   r0,    [sp,   #0]
LDRPCI   r0,    C2
STRSPI   r0,    [sp,   #2]
LDRPCI   r0,    C3
STRSPI   r0,    [sp,   #8]
LDRPCI   r0,    C4
STRSPI   r0,    [sp,   #11]
LDRPCI   r0,    C5
STRSPI   r0,    [sp,   #14]
LDRPCI   r0,    C6
STRSPI   r0,    [sp,   #18]
LDRPCI   r0,    C7
STRSPI   r0,    [sp,   #19]
LDRPCI   r0,    C8
STRSPI   r0,    [sp,   #22]
LDRPCI   r0,    C9
STRSPI   r0,    [sp,   #25]
LDRPCI   r0,    C10
STRSPI   r0,    [sp,   #35]
LDRPCI   r0,    C11
STRSPI   r0,    [sp,   #37]
BL       L142
SVC      #0
L142
```

```
PROC main
L2
    PUSH
    DECSP    #1
    MOVI     r0,    #0
    BL       L3
    BL       L11
    STRSPI   r0,    [sp,    #0]
    ADDPCI   r0,    S0
    BL       L8
    LDRI     r0,    [r7,    #3]
    BL       L9
    BL       L5
    LDRSPI   r0,    [sp,    #0]
    BL       L64
    ADDPCI   r0,    S3
    BL       L8
    MOVI     r0,    #2
    LDRI     r1,    [r7,    #30]
    MULR     r0,    r1
    BL       L9
    BL       L5
    ADDPCI   r0,    S7
    BL       L8
    MOVI     r0,    #4
    LDRI     r1,    [r7,    #28]
    MULR     r0,    r1
    MOVI     r1,    #2
    LDRI     r2,    [r7,    #30]
    MULR     r1,    r2
    ADDR     r0,    r0,    r1
    BL       L9
    BL       L5
    INCSP    #1
    POP
```

```
PROC selectoutput
L3
    PUSH
    DECSP    #1
    STRSPI   r0,   [sp,   #0]
    LDRSPI   r0,   [sp,   #0]
    STRI     r0,   [r7,   #1]
    INCSP    #1
    POP
```

```
PROC putval
L4
    PUSH
    DECSP    #1
    STRSPI   r0,   [sp,   #0]
    LDRSPI   r0,   [sp,   #0]
    LDRI     r1,   [r7,   #1]
    SVC      #1
    INCSP    #1
    POP
```

```
PROC newline
L5
    PUSH
    MOVI        r0,     #10
    BL          L4
    POP
```

```
FUNC div
L6
    PUSH
    DECSP    #6
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    LDRSPI   r0,    [sp,   #1]
    STRSPI   r0,    [sp,   #2]
    LDRSPI   r0,    [sp,   #0]
    STRSPI   r0,    [sp,   #3]
    MOVI     r0,    #1
    STRSPI   r0,    [sp,   #4]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,   #5]
L144
    LDRSPI   r0,    [sp,   #0]
    LDRSPI   r1,    [sp,   #2]
    SUBR     r0,    r1,    r0
    BGE      L143
    LDRSPI   r0,    [sp,   #2]
    LSLI     r0,    r0,    #1
    STRSPI   r0,    [sp,   #2]
    LDRSPI   r0,    [sp,   #4]
    LSLI     r0,    r0,    #1
    STRSPI   r0,    [sp,   #4]
    BU       L144
L143
L146
    LDRSPI   r0,    [sp,   #4]
    MOVI     r1,    #0
    SUBR     r0,    r1,    r0
    BGE      L145
    LDRSPI   r0,    [sp,   #2]
    LDRSPI   r1,    [sp,   #3]
    SUBR     r0,    r1,    r0
    BLT      L147
    LDRSPI   r0,    [sp,   #4]
    LDRSPI   r1,    [sp,   #5]
    ORR      r0,    r1
    STRSPI   r0,    [sp,   #5]
    LDRSPI   r0,    [sp,   #2]
    LDRSPI   r1,    [sp,   #3]
    SUBR     r0,    r1,    r0
    STRSPI   r0,    [sp,   #3]
L147
    LDRSPI   r0,    [sp,   #2]
    LSRI     r0,    r0,    #1
    STRSPI   r0,    [sp,   #2]
```

```
        LDRSPI   r0,   [sp,   #4]
        LSRI     r0,   r0,   #1
        STRSPI   r0,   [sp,   #4]
        BU       L146
L145
        LDRSPI   r0,   [sp,   #5]
        INCSP    #6
        POP
```

```
FUNC rem
L7
  PUSH
  DECSP   #2
  STRSPI  r0,   [sp,  #0]
  STRSPI  r1,   [sp,  #1]
  LDRSPI  r0,   [sp,  #0]
  LDRSPI  r1,   [sp,  #1]
  BL      L6
  LDRSPI  r1,   [sp,  #1]
  MULR    r0,   r1
  LDRSPI  r1,   [sp,  #0]
  SUBR    r0,   r1,   r0
  INCSP   #2
  POP
```

```
PROC prints
L8
    PUSH
    DECSP    #6
    STRSPI   r0,    [sp,   #0]
    MOVI     r0,    #1
    STRSPI   r0,    [sp,   #1]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,   #2]
    LDRSPI   r0,    [sp,   #0]
    LDRSPI   r1,    [sp,   #2]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #3]
    MOVI     r0,    #255
    LDRSPI   r1,    [sp,   #3]
    ANDR     r0,    r1
    STRSPI   r0,    [sp,   #4]
    LDRSPI   r0,    [sp,   #3]
    LSRI     r0,    r0,    #8
    STRSPI   r0,    [sp,   #3]
    MOVI     r0,    #1
    STRSPI   r0,    [sp,   #5]
L149
    LDRSPI   r0,    [sp,   #1]
    LDRSPI   r1,    [sp,   #4]
    SUBR     r0,    r1,    r0
    BLT      L148
    MOVI     r0,    #255
    LDRSPI   r1,    [sp,   #3]
    ANDR     r0,    r1
    BL       L4
    LDRSPI   r0,    [sp,   #3]
    LSRI     r0,    r0,    #8
    STRSPI   r0,    [sp,   #3]
    LDRSPI   r0,    [sp,   #1]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,   #1]
    LDRSPI   r0,    [sp,   #5]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,   #5]
    LDRSPI   r0,    [sp,   #5]
    SUBI     r0,    #4
    BNE      L149
    MOVI     r0,    #0
    STRSPI   r0,    [sp,   #5]
    LDRSPI   r0,    [sp,   #2]
    ADDI     r0,    #1
```

```
    STRSPI   r0,    [sp,   #2]
    LDRSPI   r0,    [sp,   #0]
    LDRSPI   r1,    [sp,   #2]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #3]
    BU       L149
L148
    INCSP    #6
    POP
```

```
PROC printn
L9
    PUSH
    DECSP   #1
    STRSPI  r0,   [sp,   #0]
    LDRSPI  r0,   [sp,   #0]
    SUBI    r0,   #0
    BGE     L151
    MOVI    r0,   #45
    BL      L4
    LDRSPI  r0,   [sp,   #0]
    NEGR    r0,   r0
    BU      L9+2
L151
    LDRSPI  r0,   [sp,   #0]
    MOVI    r1,   #9
    SUBR    r0,   r1,   r0
    BGE     L152
    LDRSPI  r0,   [sp,   #0]
    MOVI    r1,   #10
    BL      L6
    BL      L9
L152
    LDRSPI  r0,   [sp,   #0]
    MOVI    r1,   #10
    BL      L7
    ADDI    r0,   #48
    BL      L4
L150
    INCSP   #1
    POP
```

```
PROC printhex
L10
    PUSH
    DECSP    #2
    STRSPI   r0,   [sp,  #0]
    LDRSPI   r0,   [sp,  #0]
    MOVI     r1,   #15
    SUBR     r0,   r1,   r0
    BGE      L153
    LDRSPI   r0,   [sp,  #0]
    LSRI     r0,   r0,   #4
    BL       L10
L153
    MOVI     r0,   #15
    LDRSPI   r1,   [sp,  #0]
    ANDR     r0,   r1
    STRSPI   r0,   [sp,  #1]
    LDRSPI   r0,   [sp,  #1]
    SUBI     r0,   #10
    BGE      L155
    LDRSPI   r0,   [sp,  #1]
    ADDI     r0,   #48
    BL       L4
    BU       L154
L155
    LDRSPI   r0,   [sp,  #1]
    SUBI     r0,   #10
    ADDI     r0,   #97
    BL       L4
L154
    INCSP    #2
    POP
```

```
FUNC formtree
L11
    PUSH
    DECSP    #3
    MOVI     r0,    #0
    STRI     r0,    [r7,    #15]
    MOVI     r0,    #0
    STRI     r0,    [r7,    #9]
    MOVI     r0,    #0
    STRI     r0,    [r7,    #12]
    MOVI     r0,    #1
    STRI     r0,    [r7,    #3]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #0]
L157
    LDRSPI   r0,    [sp,    #0]
    SUBI     r0,    #128
    BGE      L156
    LDRSPI   r0,    [sp,    #0]
    MOVI     r1,    #0
    LDRI     r2,    [r7,    #0]
    LSLI     r0,    r0,     #2
    STRR     r1,    [r2,    r0]
    LDRSPI   r0,    [sp,    #0]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,    #0]
    BU       L157
L156
    BL       L22
    MOVI     r0,    #0
    BL       L14
    STRI     r0,    [r7,    #5]
    MOVI     r0,    #0
    STRI     r0,    [r7,    #17]
    BL       L24
    BL       L25
    BL       L31
    LDRI     r0,    [r7,    #7]
    SUBI     r0,    #22
    BEQ      #1
    MOVI     r0,    #1
    SUBI     r0,    #1
    LDRI     r1,    [r7,    #7]
    SUBI     r1,    #35
    BEQ      #1
    MOVI     r1,    #1
    SUBI     r1,    #1
    ORR      r0,    r1
```

```
        LDRI    r1,    [r7,  #7]
        SUBI    r1,    #21
        BEQ     #1
        MOVI    r1,    #1
        SUBI    r1,    #1
        ORR     r0,    r1
        BEQ     L159
        BL      L44
        STRSPI  r0,    [sp,  #1]
        BU      L158
L159
        LDRI    r0,    [r7,  #5]
        STRSPI  r0,    [sp,  #1]
L158
        BL      L41
        STRSPI  r0,    [sp,  #2]
        MOVI    r0,    #23
        LDRSPI  r1,    [sp,  #1]
        LDRSPI  r2,    [sp,  #2]
        BL      L16
        INCSP   #3
        POP
        ADDI    r0,    #0
C0
        DCD     43704
C1
        DCD     43888
C2
        DCD     44400
C3
        DCD     144400
C4
        DCD     144800
C5
        DCD     145200
C6
        DCD     146000
C7
        DCD     148000
C8
        DCD     150000
C9
        DCD     152000
C10
        DCD     156000
C11
        DCD     160000
S0
        DCD     1701999627
```

```
    DCD     1769152613
    DCD     540697978
S3
    DCD     1869770766
    DCD     1835102823
    DCD     2053731104
    DCD     2112101
S7
    DCD     2053731078
    DCD     2112101
```

```
PROC cmperror
L12
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,   #0]
    ADDPCI   r0,    S9
    BL       L8
    LDRI     r0,    [r7,   #17]
    BL       L9
    ADDPCI   r0,    S14
    BL       L8
    LDRSPI   r0,    [sp,   #0]
    BL       L8
    BL       L5
    INCSP    #1
    POP
```

```
FUNC newvec
L13
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,   #0]
    LDRI     r0,    [r7,   #3]
    STRSPI   r0,    [sp,   #1]
    LDRSPI   r0,    [sp,   #0]
    LDRI     r1,    [r7,   #3]
    ADDR     r0,    r0,    r1
    STRI     r0,    [r7,   #3]
    LDRI     r0,    [r7,   #3]
    LDRPCI   r1,    C12
    SUBR     r0,    r1,    r0
    BGE      L160
    ADDPCI   r0,    S15
    BL       L12
L160
    LDRSPI   r0,    [sp,   #1]
    INCSP    #2
    POP
```

```
FUNC cons1
L14
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,   #0]
    MOVI     r0,    #1
    BL       L13
    STRSPI   r0,    [sp,   #1]
    LDRSPI   r0,    [sp,   #1]
    LDRSPI   r1,    [sp,   #0]
    LDRI     r2,    [r7,   #2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    LDRSPI   r0,    [sp,   #1]
    INCSP    #2
    POP
```

```
FUNC cons2
L15
    PUSH
    DECSP    #3
    STRSPI   r0,   [sp,   #0]
    STRSPI   r1,   [sp,   #1]
    MOVI     r0,   #2
    BL       L13
    STRSPI   r0,   [sp,   #2]
    LDRSPI   r0,   [sp,   #2]
    LDRSPI   r1,   [sp,   #0]
    LDRI     r2,   [r7,   #2]
    LSLI     r0,   r0,    #2
    STRR     r1,   [r2,   r0]
    LDRSPI   r0,   [sp,   #2]
    ADDI     r0,   #1
    LDRSPI   r1,   [sp,   #1]
    LDRI     r2,   [r7,   #2]
    LSLI     r0,   r0,    #2
    STRR     r1,   [r2,   r0]
    LDRSPI   r0,   [sp,   #2]
    INCSP    #3
    POP
```

```
FUNC cons3
L16
    PUSH
    DECSP    #4
    STRSPI   r0,   [sp,   #0]
    STRSPI   r1,   [sp,   #1]
    STRSPI   r2,   [sp,   #2]
    MOVI     r0,   #3
    BL       L13
    STRSPI   r0,   [sp,   #3]
    LDRSPI   r0,   [sp,   #3]
    LDRSPI   r1,   [sp,   #0]
    LDRI     r2,   [r7,   #2]
    LSLI     r0,   r0,   #2
    STRR     r1,   [r2,   r0]
    LDRSPI   r0,   [sp,   #3]
    ADDI     r0,   #1
    LDRSPI   r1,   [sp,   #1]
    LDRI     r2,   [r7,   #2]
    LSLI     r0,   r0,   #2
    STRR     r1,   [r2,   r0]
    LDRSPI   r0,   [sp,   #3]
    ADDI     r0,   #2
    LDRSPI   r1,   [sp,   #2]
    LDRI     r2,   [r7,   #2]
    LSLI     r0,   r0,   #2
    STRR     r1,   [r2,   r0]
    LDRSPI   r0,   [sp,   #3]
    INCSP    #4
    POP
```

```
FUNC cons4
L17
    PUSH
    DECSP    #5
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    STRSPI   r2,    [sp,   #2]
    STRSPI   r3,    [sp,   #3]
    MOVI     r0,    #4
    BL       L13
    STRSPI   r0,    [sp,   #4]
    LDRSPI   r0,    [sp,   #4]
    LDRSPI   r1,    [sp,   #0]
    LDRI     r2,    [r7,   #2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    LDRSPI   r0,    [sp,   #4]
    ADDI     r0,    #1
    LDRSPI   r1,    [sp,   #1]
    LDRI     r2,    [r7,   #2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    LDRSPI   r0,    [sp,   #4]
    ADDI     r0,    #2
    LDRSPI   r1,    [sp,   #2]
    LDRI     r2,    [r7,   #2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    LDRSPI   r0,    [sp,   #4]
    ADDI     r0,    #3
    LDRSPI   r1,    [sp,   #3]
    LDRI     r2,    [r7,   #2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    LDRSPI   r0,    [sp,   #4]
    INCSP    #5
    POP
```

```
FUNC lookupword
L18
    PUSH
    DECSP    #6
    LDRI     r0,    [r7,    #8]
    LDRI     r0,    [r0,    #0]
    STRSPI   r0,    [sp,    #0]
    LDRI     r0,    [r7,    #8]
    LDRI     r1,    [r7,    #10]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    LSLI     r0,    r0,     #2
    LDRSPI   r1,    [sp,    #0]
    LSRI     r1,    r1,     #3
    LDRSPI   r2,    [sp,    #0]
    ADDR     r1,    r1,     r2
    ADDR     r0,    r0,     r1
    MOVI     r1,    #127
    ANDR     r0,    r1
    STRSPI   r0,    [sp,    #1]
    LDRI     r0,    [r7,    #0]
    LDRSPI   r1,    [sp,    #1]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    STRI     r0,    [r7,    #4]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #4]
    MOVI     r0,    #1
    NEGR     r0,    r0
    STRSPI   r0,    [sp,    #5]
L162
    LDRSPI   r0,    [sp,    #5]
    ADDI     r0,    #0
    BEQ      L161
    LDRI     r0,    [r7,    #4]
    ADDI     r0,    #0
    BNE      L163
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #4]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #5]
    BU       L162
L163
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #2]
L165
    LDRI     r0,    [r7,    #8]
    LDRSPI   r1,    [sp,    #2]
```

```
        LSLI     r1,     r1,     #2
        LDRR     r0,     [r0,    r1]
        LDRI     r1,     [r7,    #2]
        LDRSPI   r2,     [sp,    #2]
        LDRI     r3,     [r7,    #4]
        ADDR     r2,     r2,     r3
        ADDI     r2,     #2
        LSLI     r2,     r2,     #2
        LDRR     r1,     [r1,    r2]
        SUBR     r0,     r1,     r0
        BEQ      #1
        MOVI     r0,     #1
        SUBI     r0,     #1
        LDRSPI   r1,     [sp,    #2]
        LDRI     r2,     [r7,    #10]
        SUBR     r1,     r2,     r1
        ASRI     r1,     r1,     #31
        MOVNR    r1,     r1
        ANDR     r0,     r1
        BEQ      L164
        LDRSPI   r0,     [sp,    #2]
        ADDI     r0,     #1
        STRSPI   r0,     [sp,    #2]
        BU       L165
L164
        LDRSPI   r0,     [sp,    #2]
        LDRI     r1,     [r7,    #10]
        SUBR     r0,     r1,     r0
        BLT      L166
        LDRI     r0,     [r7,    #2]
        LDRI     r1,     [r7,    #4]
        ADDI     r1,     #1
        LSLI     r1,     r1,     #2
        LDRR     r0,     [r0,    r1]
        STRI     r0,     [r7,    #4]
        BU       L162
L166
        LDRI     r0,     [r7,    #2]
        LDRI     r1,     [r7,    #4]
        LSLI     r1,     r1,     #2
        LDRR     r0,     [r0,    r1]
        STRSPI   r0,     [sp,    #3]
        MOVI     r0,     #1
        NEGR     r0,     r0
        STRSPI   r0,     [sp,    #4]
        MOVI     r0,     #0
        STRSPI   r0,     [sp,    #5]
        BU       L162
L161
```

```
        LDRSPI    r0,     [sp,    #4]
        ADDI      r0,     #0
        BNE       L167
        LDRI      r0,     [r7,    #10]
        ADDI      r0,     #3
        BL        L13
        STRI      r0,     [r7,    #4]
        LDRI      r0,     [r7,    #4]
        MOVI      r1,     #1
        LDRI      r2,     [r7,    #2]
        LSLI      r0,     r0,     #2
        STRR      r1,     [r2,    r0]
        LDRI      r0,     [r7,    #4]
        ADDI      r0,     #1
        LDRI      r1,     [r7,    #0]
        LDRSPI    r2,     [sp,    #1]
        LSLI      r2,     r2,     #2
        LDRR      r1,     [r1,    r2]
        LDRI      r2,     [r7,    #2]
        LSLI      r0,     r0,     #2
        STRR      r1,     [r2,    r0]
        MOVI      r0,     #0
        STRSPI    r0,     [sp,    #2]
L169
        LDRSPI    r0,     [sp,    #2]
        LDRI      r1,     [r7,    #10]
        SUBR      r0,     r1,     r0
        BLT       L168
        LDRSPI    r0,     [sp,    #2]
        LDRI      r1,     [r7,    #4]
        ADDR      r0,     r0,     r1
        ADDI      r0,     #2
        LDRI      r1,     [r7,    #8]
        LDRSPI    r2,     [sp,    #2]
        LSLI      r2,     r2,     #2
        LDRR      r1,     [r1,    r2]
        LDRI      r2,     [r7,    #2]
        LSLI      r0,     r0,     #2
        STRR      r1,     [r2,    r0]
        LDRSPI    r0,     [sp,    #2]
        ADDI      r0,     #1
        STRSPI    r0,     [sp,    #2]
        BU        L169
L168
        LDRSPI    r0,     [sp,    #1]
        LDRI      r1,     [r7,    #4]
        LDRI      r2,     [r7,    #0]
        LSLI      r0,     r0,     #2
        STRR      r1,     [r2,    r0]
```

```
        MOVI      r0,    #1
        STRSPI    r0,    [sp,   #3]
L167
        LDRSPI    r0,    [sp,   #3]
        INCSP     #6
        POP
```

```
FUNC packstring
L19
    PUSH
    DECSP    #7
    STRSPI   r0,    [sp,    #0]
    STRSPI   r1,    [sp,    #1]
    LDRSPI   r0,    [sp,    #0]
    LDRI     r0,    [r0,    #0]
    STRSPI   r0,    [sp,    #2]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #3]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #4]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #6]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #5]
L171
    LDRSPI   r0,    [sp,    #3]
    LDRSPI   r1,    [sp,    #2]
    SUBR     r0,    r1,     r0
    BLT      L170
    LDRSPI   r0,    [sp,    #0]
    LDRSPI   r1,    [sp,    #3]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    LDRSPI   r1,    [sp,    #6]
    LSLI     r1,    r1,     #3
    LSLR     r0,    r1
    LDRSPI   r1,    [sp,    #5]
    ORR      r0,    r1
    STRSPI   r0,    [sp,    #5]
    LDRSPI   r0,    [sp,    #6]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,    #6]
    LDRSPI   r0,    [sp,    #6]
    SUBI     r0,    #4
    BNE      L172
    LDRSPI   r0,    [sp,    #4]
    LDRSPI   r1,    [sp,    #5]
    LDRSPI   r2,    [sp,    #1]
    LSLI     r0,    r0,     #2
    STRR     r1,    [r2,    r0]
    LDRSPI   r0,    [sp,    #4]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,    #4]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #5]
```

```
        MOVI      r0,    #0
        STRSPI    r0,    [sp,    #6]
L172
        LDRSPI    r0,    [sp,    #3]
        ADDI      r0,    #1
        STRSPI    r0,    [sp,    #3]
        BU        L171
L170
        LDRSPI    r0,    [sp,    #6]
        ADDI      r0,    #0
        BNE       L174
        LDRSPI    r0,    [sp,    #4]
        SUBI      r0,    #1
        STRSPI    r0,    [sp,    #4]
        BU        L173
L174
        LDRSPI    r0,    [sp,    #4]
        LDRSPI    r1,    [sp,    #5]
        LDRSPI    r2,    [sp,    #1]
        LSLI      r0,    r0,     #2
        STRR      r1,    [r2,    r0]
L173
        LDRSPI    r0,    [sp,    #4]
        INCSP     #7
        POP
C12
        DCD       25000
S9
        DCD       1920099600
        DCD       1847620207
        DCD       544366949
        DCD       1701734764
        DCD       32
S14
        DCD       2112002
S15
        DCD       1953853196
        DCD       543584032
        DCD       1667330163
        DCD       101
```

```
PROC unpackstring
L20
    PUSH
    DECSP    #7
    STRSPI   r0,    [sp,    #0]
    STRSPI   r1,    [sp,    #1]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #2]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #3]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #4]
    LDRSPI   r0,    [sp,    #0]
    LDRI     r0,    [r0,    #0]
    STRSPI   r0,    [sp,    #5]
    MOVI     r0,    #255
    LDRSPI   r1,    [sp,    #5]
    ANDR     r0,    r1
    STRSPI   r0,    [sp,    #6]
L176
    LDRSPI   r0,    [sp,    #3]
    LDRSPI   r1,    [sp,    #6]
    SUBR     r0,    r1,    r0
    BLT      L175
    MOVI     r1,    #255
    LDRSPI   r2,    [sp,    #5]
    ANDR     r1,    r2
    LDRSPI   r0,    [sp,    #3]
    LDRSPI   r2,    [sp,    #1]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,    r0]
    LDRSPI   r0,    [sp,    #5]
    LSRI     r0,    r0,    #8
    STRSPI   r0,    [sp,    #5]
    LDRSPI   r0,    [sp,    #3]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,    #3]
    LDRSPI   r0,    [sp,    #4]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,    #4]
    LDRSPI   r0,    [sp,    #4]
    SUBI     r0,    #4
    BNE      L176
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #4]
    LDRSPI   r0,    [sp,    #2]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,    #2]
```

```
        LDRSPI   r0,    [sp,   #0]
        LDRSPI   r1,    [sp,   #2]
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        STRSPI   r0,    [sp,   #5]
        BU       L176
L175
        INCSP    #7
        POP
```

PROC declare
L21
  PUSH
  DECSP   #2
  STRSPI   r0,   [sp, #0]
  STRSPI   r1,   [sp, #1]
  LDRSPI   r0,   [sp, #0]
  LDRI   r1,   [r7, #11]
  BL   L20
  LDRI   r0,   [r7, #11]
  LDRI   r1,   [r7, #8]
  BL   L19
  STRI   r0,   [r7, #10]
  BL   L18
  LDRI   r0,   [r7, #4]
  LDRSPI   r1,   [sp, #1]
  LDRI   r2,   [r7, #2]
  LSLI   r0,   r0,   #2
  STRR   r1,   [r2, r0]
  INCSP   #2
  POP

PROC declsyswords
L22
    PUSH
    ADDPCI   r0,   S19
    MOVI   r1,   #70
    BL   L21
    ADDPCI   r0,   S20
    MOVI   r1,   #22
    BL   L21
    ADDPCI   r0,   S22
    MOVI   r1,   #14
    BL   L21
    ADDPCI   r0,   S23
    MOVI   r1,   #12
    BL   L21
    ADDPCI   r0,   S25
    MOVI   r1,   #43
    BL   L21
    ADDPCI   r0,   S27
    MOVI   r1,   #25
    BL   L21
    ADDPCI   r0,   S29
    MOVI   r1,   #10
    BL   L21
    ADDPCI   r0,   S30
    MOVI   r1,   #26
    BL   L21
    ADDPCI   r0,   S31
    MOVI   r1,   #69
    BL   L21
    ADDPCI   r0,   S32
    MOVI   r1,   #24
    BL   L21
    ADDPCI   r0,   S34
    MOVI   r1,   #44
    BL   L21
    ADDPCI   r0,   S36
    MOVI   r1,   #16
    BL   L21
    ADDPCI   r0,   S38
    MOVI   r1,   #27
    BL   L21
    ADDPCI   r0,   S40
    MOVI   r1,   #11
    BL   L21
    ADDPCI   r0,   S42
    MOVI   r1,   #42
    BL   L21

```
ADDPCI   r0,    S44
MOVI     r1,    #35
BL       L21
ADDPCI   r0,    S45
MOVI     r1,    #21
BL       L21
ADDPCI   r0,    S46
MOVI     r1,    #13
BL       L21
ADDPCI   r0,    S48
MOVI     r1,    #71
BL       L21
POP
```

```
FUNC getchar
L23
    PUSH
    MOVI      r0,   #0
    SVC       #2
    POP
```

```
PROC rdline
L24
   PUSH
   MOVI    r0,   #1
   STRI    r0,   [r7,   #16]
   MOVI    r0,   #1
   STRI    r0,   [r7,   #15]
   LDRI    r0,   [r7,   #17]
   ADDI    r0,   #1
   STRI    r0,   [r7,   #17]
   BL      L23
   STRI    r0,   [r7,   #13]
   LDRI    r0,   [r7,   #16]
   LDRI    r1,   [r7,   #13]
   LDRI    r2,   [r7,   #14]
   LSLI    r0,   r0,   #2
   STRR    r1,   [r2,   r0]
L178
   LDRI    r0,   [r7,   #16]
   SUBI    r0,   #200
   ASRI    r0,   r0,   #31
   LDRI    r1,   [r7,   #13]
   SUBI    r1,   #255
   BEQ     #1
   MOVI    r1,   #1
   NEGR    r1,   r1
   ANDR    r0,   r1
   LDRI    r1,   [r7,   #13]
   SUBI    r1,   #10
   BEQ     #1
   MOVI    r1,   #1
   NEGR    r1,   r1
   ANDR    r0,   r1
   BEQ     L177
   BL      L23
   STRI    r0,   [r7,   #13]
   LDRI    r0,   [r7,   #16]
   ADDI    r0,   #1
   STRI    r0,   [r7,   #16]
   LDRI    r0,   [r7,   #16]
   LDRI    r1,   [r7,   #13]
   LDRI    r2,   [r7,   #14]
   LSLI    r0,   r0,   #2
   STRR    r1,   [r2,   r0]
   BU      L178
L177
   POP
```

```
PROC rch
L25
    PUSH
    LDRI      r0,    [r7,    #15]
    LDRI      r1,    [r7,    #16]
    SUBR      r0,    r1,    r0
    BGE       L179
    BL        L24
L179
    LDRI      r0,    [r7,    #14]
    LDRI      r1,    [r7,    #15]
    LSLI      r1,    r1,    #2
    LDRR      r0,    [r0,    r1]
    STRI      r0,    [r7,    #13]
    LDRI      r0,    [r7,    #15]
    ADDI      r0,    #1
    STRI      r0,    [r7,    #15]
    POP
```

```
PROC rdtag
L26
    PUSH
    MOVI    r0,    #0
    STRI    r0,    [r7,   #12]
L181
    LDRI    r0,    [r7,   #13]
    MOVI    r1,    #57
    SUBR    r0,    r1,    r0
    ASRI    r0,    r0,    #31
    LDRI    r1,    [r7,   #13]
    SUBI    r1,    #48
    ASRI    r1,    r1,    #31
    ORR     r0,    r1
    MOVNR   r0,    r0
    LDRI    r1,    [r7,   #13]
    SUBI    r1,    #95
    BEQ     #1
    MOVI    r1,    #1
    SUBI    r1,    #1
    ORR     r0,    r1
    LDRI    r1,    [r7,   #13]
    MOVI    r2,    #122
    SUBR    r1,    r2,    r1
    ASRI    r1,    r1,    #31
    LDRI    r2,    [r7,   #13]
    SUBI    r2,    #97
    ASRI    r2,    r2,    #31
    ORR     r1,    r2
    MOVNR   r1,    r1
    ORR     r0,    r1
    LDRI    r1,    [r7,   #13]
    MOVI    r2,    #90
    SUBR    r1,    r2,    r1
    ASRI    r1,    r1,    #31
    LDRI    r2,    [r7,   #13]
    SUBI    r2,    #65
    ASRI    r2,    r2,    #31
    ORR     r1,    r2
    MOVNR   r1,    r1
    ORR     r0,    r1
    BEQ     L180
    LDRI    r0,    [r7,   #12]
    ADDI    r0,    #1
    STRI    r0,    [r7,   #12]
    LDRI    r0,    [r7,   #12]
    LDRI    r1,    [r7,   #13]
    LDRI    r2,    [r7,   #11]
```

```
        LSLI      r0,    r0,    #2
        STRR      r1,    [r2,   r0]
        BL        L25
        BU        L181
L180
        LDRI      r0,    [r7,   #12]
        LDRI      r1,    [r7,   #11]
        STRI      r0,    [r1,   #0]
        LDRI      r0,    [r7,   #11]
        LDRI      r1,    [r7,   #8]
        BL        L19
        STRI      r0,    [r7,   #10]
        POP
```

```
PROC readnumber
L27
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,   #0]
    LDRI     r0,    [r7,   #13]
    BL       L28
    STRSPI   r0,    [sp,   #1]
    MOVI     r0,    #0
    STRI     r0,    [r7,   #6]
    LDRSPI   r0,    [sp,   #0]
    LDRSPI   r1,    [sp,   #1]
    SUBR     r0,    r1,    r0
    BLT      L183
    ADDPCI   r0,    S49
    BL       L12
    BU       L182
L183
L184
    LDRSPI   r0,    [sp,   #0]
    LDRSPI   r1,    [sp,   #1]
    SUBR     r0,    r1,    r0
    BGE      L182
    LDRSPI   r0,    [sp,   #0]
    LDRI     r1,    [r7,   #6]
    MULR     r0,    r1
    LDRSPI   r1,    [sp,   #1]
    ADDR     r0,    r0,    r1
    STRI     r0,    [r7,   #6]
    BL       L25
    LDRI     r0,    [r7,   #13]
    BL       L28
    STRSPI   r0,    [sp,   #1]
    BU       L184
L182
    INCSP    #2
    POP
```

```
FUNC value
L28
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,   #0]
    LDRSPI   r0,    [sp,   #0]
    MOVI     r1,    #57
    SUBR     r0,    r1,    r0
    ASRI     r0,    r0,    #31
    LDRSPI   r1,    [sp,   #0]
    SUBI     r1,    #48
    ASRI     r1,    r1,    #31
    ORR      r0,    r1
    BNE      L186
    LDRSPI   r0,    [sp,   #0]
    SUBI     r0,    #48
    BU       L185
L186
    LDRSPI   r0,    [sp,   #0]
    MOVI     r1,    #90
    SUBR     r0,    r1,    r0
    ASRI     r0,    r0,    #31
    LDRSPI   r1,    [sp,   #0]
    SUBI     r1,    #65
    ASRI     r1,    r1,    #31
    ORR      r0,    r1
    BNE      L187
    LDRSPI   r0,    [sp,   #0]
    ADDI     r0,    #10
    SUBI     r0,    #65
    BU       L185
L187
    MOVI     r0,    #125
    LSLI     r0,    r0,    #2
L185
    INCSP    #1
    POP
    ADDI     r0,    #0
S19
    DCD      1684955395
S20
    DCD      1920098565
    DCD      31073
S22
    DCD      7300098
S23
    DCD      1936483588
    DCD      101
```

```
S25
    DCD         1818322437
    DCD         25971
S27
    DCD         1853187588
    DCD         99
S29
    DCD         6711554
S30
    DCD         7563522
S31
    DCD         7499522
S32
    DCD         1869770756
    DCD         99
S34
    DCD         1952805382
    DCD         7238261
S36
    DCD         1768649476
    DCD         112
S38
    DCD         1869902596
    DCD         112
S40
    DCD         1701344260
    DCD         110
S42
    DCD         1970435076
    DCD         101
S44
    DCD         1818326531
S45
    DCD         1918989827
S46
    DCD         1768453893
    DCD         25964
S48
    DCD         1919907843
S49
    DCD         1920099599
    DCD         1763734127
    DCD         1970151534
    DCD         1919246957
```

```
FUNC readcharco
L29
    PUSH
    DECSP    #1
    LDRI     r0,    [r7,   #13]
    SUBI     r0,    #92
    BNE      L189
    BL       L25
    LDRI     r0,    [r7,   #13]
    SUBI     r0,    #92
    BNE      L190
    MOVI     r0,    #92
    STRSPI   r0,    [sp,   #0]
    BU       L188
L190
    LDRI     r0,    [r7,   #13]
    SUBI     r0,    #39
    BNE      L191
    MOVI     r0,    #39
    STRSPI   r0,    [sp,   #0]
    BU       L188
L191
    LDRI     r0,    [r7,   #13]
    SUBI     r0,    #34
    BNE      L192
    MOVI     r0,    #34
    STRSPI   r0,    [sp,   #0]
    BU       L188
L192
    LDRI     r0,    [r7,   #13]
    SUBI     r0,    #110
    BNE      L193
    MOVI     r0,    #10
    STRSPI   r0,    [sp,   #0]
    BU       L188
L193
    LDRI     r0,    [r7,   #13]
    SUBI     r0,    #114
    BNE      L194
    MOVI     r0,    #13
    STRSPI   r0,    [sp,   #0]
    BU       L188
L194
    ADDPCI   r0,    S53
    BL       L12
    BU       L188
L189
    LDRI     r0,    [r7,   #13]
```

```
        STRSPI    r0,    [sp,   #0]
L188
        BL        L25
        LDRSPI    r0,    [sp,   #0]
        INCSP     #1
        POP
```

```
PROC readstring
L30
    PUSH
    DECSP    #1
    MOVI     r0,    #0
    STRI     r0,    [r7,   #12]
L196
    LDRI     r0,    [r7,   #13]
    SUBI     r0,    #34
    BEQ      L195
    LDRI     r0,    [r7,   #12]
    SUBI     r0,    #255
    BNE      L197
    ADDPCI   r0,    S60
    BL       L12
L197
    BL       L29
    STRSPI   r0,    [sp,   #0]
    LDRI     r0,    [r7,   #12]
    ADDI     r0,    #1
    STRI     r0,    [r7,   #12]
    LDRI     r0,    [r7,   #12]
    LDRSPI   r1,    [sp,   #0]
    LDRI     r2,    [r7,   #11]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    BU       L196
L195
    LDRI     r0,    [r7,   #12]
    LDRI     r1,    [r7,   #11]
    STRI     r0,    [r1,   #0]
    LDRI     r0,    [r7,   #11]
    LDRI     r1,    [r7,   #8]
    BL       L19
    STRI     r0,    [r7,   #10]
    INCSP    #1
    POP
```

```
PROC nextsymbol
L31
    PUSH
L199
    LDRI      r0,    [r7,   #13]
    SUBI      r0,    #32
    BEQ       #1
    MOVI      r0,    #1
    SUBI      r0,    #1
    LDRI      r1,    [r7,   #13]
    SUBI      r1,    #13
    BEQ       #1
    MOVI      r1,    #1
    SUBI      r1,    #1
    ORR       r0,    r1
    LDRI      r1,    [r7,   #13]
    SUBI      r1,    #10
    BEQ       #1
    MOVI      r1,    #1
    SUBI      r1,    #1
    ORR       r0,    r1
    BEQ       L198
    BL        L25
    BU        L199
L198
    LDRI      r0,    [r7,   #13]
    SUBI      r0,    #124
    BNE       L201
    BL        L25
L203
    LDRI      r0,    [r7,   #13]
    SUBI      r0,    #124
    BEQ       L202
    BL        L25
    BU        L203
L202
    BL        L25
    BU        L31+1
L201
    LDRI      r0,    [r7,   #13]
    MOVI      r1,    #122
    SUBR      r0,    r1,    r0
    ASRI      r0,    r0,    #31
    LDRI      r1,    [r7,   #13]
    SUBI      r1,    #97
    ASRI      r1,    r1,    #31
    ORR       r0,    r1
    LDRI      r1,    [r7,   #13]
```

```
        MOVI      r2,     #90
        SUBR      r1,     r2,     r1
        ASRI      r1,     r1,     #31
        LDRI      r2,     [r7,    #13]
        SUBI      r2,     #65
        ASRI      r2,     r2,     #31
        ORR       r1,     r2
        ANDR      r0,     r1
        BNE       L204
        BL        L26
        BL        L18
        STRI      r0,     [r7,    #7]
        BU        L200
L204
        LDRI      r0,     [r7,    #13]
        MOVI      r1,     #57
        SUBR      r0,     r1,     r0
        ASRI      r0,     r0,     #31
        LDRI      r1,     [r7,    #13]
        SUBI      r1,     #48
        ASRI      r1,     r1,     #31
        ORR       r0,     r1
        BNE       L205
        MOVI      r0,     #2
        STRI      r0,     [r7,    #7]
        MOVI      r0,     #10
        BL        L27
        BU        L200
L205
        LDRI      r0,     [r7,    #13]
        SUBI      r0,     #35
        BNE       L206
        BL        L25
        MOVI      r0,     #2
        STRI      r0,     [r7,    #7]
        MOVI      r0,     #16
        BL        L27
        BU        L200
L206
        LDRI      r0,     [r7,    #13]
        SUBI      r0,     #91
        BNE       L207
        BL        L25
        MOVI      r0,     #3
        STRI      r0,     [r7,    #7]
        BU        L200
L207
        LDRI      r0,     [r7,    #13]
        SUBI      r0,     #93
```

```
        BNE       L208
        BL        L25
        MOVI      r0,   #4
        STRI      r0,   [r7,   #7]
        BU        L200
L208
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #40
        BNE       L209
        BL        L25
        MOVI      r0,   #6
        STRI      r0,   [r7,   #7]
        BU        L200
L209
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #41
        BNE       L210
        BL        L25
        MOVI      r0,   #7
        STRI      r0,   [r7,   #7]
        BU        L200
L210
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #123
        BNE       L211
        BL        L25
        MOVI      r0,   #17
        STRI      r0,   [r7,   #7]
        BU        L200
L211
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #125
        BNE       L212
        BL        L25
        MOVI      r0,   #18
        STRI      r0,   [r7,   #7]
        BU        L200
L212
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #59
        BNE       L213
        BL        L25
        MOVI      r0,   #19
        STRI      r0,   [r7,   #7]
        BU        L200
L213
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #44
        BNE       L214
```

```
        BL      L25
        MOVI    r0,   #20
        STRI    r0,   [r7,  #7]
        BU      L200
L214
        LDRI    r0,   [r7,  #13]
        SUBI    r0,   #43
        BNE     L215
        BL      L25
        MOVI    r0,   #64
        STRI    r0,   [r7,  #7]
        BU      L200
L215
        LDRI    r0,   [r7,  #13]
        SUBI    r0,   #45
        BNE     L216
        BL      L25
        MOVI    r0,   #65
        STRI    r0,   [r7,  #7]
        BU      L200
L216
        LDRI    r0,   [r7,  #13]
        SUBI    r0,   #42
        BNE     L217
        BL      L25
        MOVI    r0,   #66
        STRI    r0,   [r7,  #7]
        BU      L200
L217
        LDRI    r0,   [r7,  #13]
        SUBI    r0,   #61
        BNE     L218
        BL      L25
        MOVI    r0,   #74
        STRI    r0,   [r7,  #7]
        BU      L200
L218
        LDRI    r0,   [r7,  #13]
        SUBI    r0,   #60
        BNE     L219
        BL      L25
        LDRI    r0,   [r7,  #13]
        SUBI    r0,   #61
        BNE     L220
        BL      L25
        MOVI    r0,   #77
        STRI    r0,   [r7,  #7]
        BU      L200
L220
```

```
        LDRI     r0,    [r7,   #13]
        SUBI     r0,    #60
        BNE      L221
        BL       L25
        MOVI     r0,    #72
        STRI     r0,    [r7,   #7]
        BU       L200
L221
        MOVI     r0,    #76
        STRI     r0,    [r7,   #7]
        BU       L200
L219
        LDRI     r0,    [r7,   #13]
        SUBI     r0,    #62
        BNE      L222
        BL       L25
        LDRI     r0,    [r7,   #13]
        SUBI     r0,    #61
        BNE      L223
        BL       L25
        MOVI     r0,    #79
        STRI     r0,    [r7,   #7]
        BU       L200
L223
        LDRI     r0,    [r7,   #13]
        SUBI     r0,    #62
        BNE      L224
        BL       L25
        MOVI     r0,    #73
        STRI     r0,    [r7,   #7]
        BU       L200
L224
        MOVI     r0,    #78
        STRI     r0,    [r7,   #7]
        BU       L200
L222
        LDRI     r0,    [r7,   #13]
        SUBI     r0,    #126
        BNE      L225
        BL       L25
        LDRI     r0,    [r7,   #13]
        SUBI     r0,    #61
        BNE      L226
        BL       L25
        MOVI     r0,    #75
        STRI     r0,    [r7,   #7]
        BU       L200
L226
        MOVI     r0,    #32
```

```
        STRI      r0,   [r7,   #7]
        BU        L200
L225
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #58
        BNE       L227
        BL        L25
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #61
        BNE       L228
        BL        L25
        MOVI      r0,   #15
        STRI      r0,   [r7,   #7]
        BU        L200
L228
        ADDPCI    r0,   S67
        BL        L12
        BU        L200
L227
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #39
        BNE       L229
        BL        L25
        BL        L29
        STRI      r0,   [r7,   #6]
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #39
        BNE       L231
        BL        L25
        BU        L230
L231
        ADDPCI    r0,   S71
        BL        L12
L230
        MOVI      r0,   #2
        STRI      r0,   [r7,   #7]
        BU        L200
L229
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #34
        BNE       L232
        BL        L25
        BL        L30
        LDRI      r0,   [r7,   #13]
        SUBI      r0,   #34
        BNE       L234
        BL        L25
        BU        L233
L234
```

```
      ADDPCI   r0,    S78
      BL       L12
L233
      MOVI     r0,    #36
      STRI     r0,    [r7,   #7]
      BU       L200
      ADDI     r0,    #0
S53
      DCD      1920099611
      DCD      1763734127
      DCD      1751326830
      DCD      1667330657
      DCD      544367988
      DCD      1936617315
      DCD      1953390964
S60
      DCD      1920099608
      DCD      1763734127
      DCD      1953701998
      DCD      1735289202
      DCD      1852793632
      DCD      1851880563
      DCD      116
S67
      DCD      658319116
      DCD      1886938400
      DCD      1702126437
      DCD      100
S71
      DCD      1920099611
      DCD      1763734127
      DCD      1751326830
      DCD      1667330657
      DCD      544367988
      DCD      1936617315
      DCD      1953390964
S78
      DCD      1920099608
      DCD      1763734127
      DCD      1953701998
      DCD      1735289202
      DCD      1852793632
      DCD      1851880563
      DCD      116
L232
      LDRI     r0,    [r7,   #13]
      SUBI     r0,    #255
      BNE      L235
      MOVI     r0,    #60
```

```
        STRI        r0,    [r7,   #7]
        BU          L200
L235
        ADDPCI  r0,    S85
        BL          L12
L200
        POP
```

```
PROC checkfor
L32
   PUSH
   DECSP    #2
   STRSPI   r0,    [sp,   #0]
   STRSPI   r1,    [sp,   #1]
   LDRSPI   r0,    [sp,   #0]
   LDRI     r1,    [r7,   #7]
   SUBR     r0,    r1,    r0
   BNE      L237
   BL       L31
   BU       L236
L237
   LDRSPI   r0,    [sp,   #1]
   BL       L12
L236
   INCSP    #2
   POP
```

```
FUNC rname
L33
   PUSH
   DECSP    #1
   LDRI     r0,    [r7,    #7]
   SUBI     r0,    #1
   BNE      L239
   LDRI     r0,    [r7,    #4]
   STRSPI   r0,    [sp,    #0]
   BL       L31
   BU       L238
L239
   ADDPCI   r0,    S90
   BL       L12
L238
   LDRSPI   r0,    [sp,    #0]
   INCSP    #1
   POP
```

```
FUNC relement
L34
    PUSH
    DECSP    #3
    LDRI     r0,    [r7,   #7]
    SUBI     r0,    #1
    BNE      L241
    BL       L33
    STRSPI   r0,    [sp,   #0]
    LDRI     r0,    [r7,   #7]
    SUBI     r0,    #3
    BNE      L242
    BL       L31
    BL       L35
    STRSPI   r0,    [sp,   #1]
    MOVI     r0,    #4
    ADDPCI   r1,    S94
    BL       L32
    MOVI     r0,    #80
    LDRSPI   r1,    [sp,   #0]
    LDRSPI   r2,    [sp,   #1]
    BL       L16
    STRSPI   r0,    [sp,   #0]
    BU       L240
L242
    LDRI     r0,    [r7,   #7]
    SUBI     r0,    #6
    BNE      L240
    BL       L31
    LDRI     r0,    [r7,   #7]
    SUBI     r0,    #7
    BNE      L244
    LDRI     r0,    [r7,   #5]
    STRSPI   r0,    [sp,   #1]
    BU       L243
L244
    BL       L38
    STRSPI   r0,    [sp,   #1]
L243
    MOVI     r0,    #7
    ADDPCI   r1,    S98
    BL       L32
    MOVI     r0,    #8
    LDRSPI   r1,    [sp,   #0]
    LDRSPI   r2,    [sp,   #1]
    BL       L16
    STRSPI   r0,    [sp,   #0]
    BU       L240
```

```
L241
    LDRI     r0,    [r7,   #7]
    SUBI     r0,    #2
    BNE      L245
    MOVI     r0,    #2
    LDRI     r1,    [r7,   #6]
    BL       L15
    STRSPI   r0,    [sp,   #0]
    BL       L31
    BU       L240
L245
    LDRI     r0,    [r7,   #7]
    SUBI     r0,    #43
    BEQ      #1
    MOVI     r0,    #1
    SUBI     r0,    #1
    LDRI     r1,    [r7,   #7]
    SUBI     r1,    #42
    BEQ      #1
    MOVI     r1,    #1
    SUBI     r1,    #1
    ORR      r0,    r1
    BEQ      L246
    LDRI     r0,    [r7,   #4]
    STRSPI   r0,    [sp,   #0]
    BL       L31
    BU       L240
L246
    LDRI     r0,    [r7,   #7]
    SUBI     r0,    #36
    BNE      L247
    LDRI     r0,    [r7,   #10]
    ADDI     r0,    #2
    BL       L13
    STRSPI   r0,    [sp,   #0]
    LDRSPI   r0,    [sp,   #0]
    MOVI     r1,    #36
    LDRI     r2,    [r7,   #2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,   #2]
L249
    LDRSPI   r0,    [sp,   #2]
    LDRI     r1,    [r7,   #10]
    SUBR     r0,    r1,    r0
    BLT      L248
    LDRSPI   r0,    [sp,   #2]
    ADDI     r0,    #1
```

```
        LDRSPI   r1,    [sp,    #0]
        ADDR     r0,    r0,     r1
        LDRI     r1,    [r7,    #8]
        LDRSPI   r2,    [sp,    #2]
        LSLI     r2,    r2,     #2
        LDRR     r1,    [r1,    r2]
        LDRI     r2,    [r7,    #2]
        LSLI     r0,    r0,     #2
        STRR     r1,    [r2,    r0]
        LDRSPI   r0,    [sp,    #2]
        ADDI     r0,    #1
        STRSPI   r0,    [sp,    #2]
        BU       L249
L248
        BL       L31
        BU       L240
L247
        LDRI     r0,    [r7,    #7]
        SUBI     r0,    #6
        BNE      L250
        BL       L31
        BL       L35
        STRSPI   r0,    [sp,    #0]
        MOVI     r0,    #7
        ADDPCI   r1,    S102
        BL       L32
        BU       L240
L250
        ADDPCI   r0,    S106
        BL       L12
L240
        LDRSPI   r0,    [sp,    #0]
        INCSP    #3
        POP
```

```
FUNC rexpression
L35
    PUSH
    DECSP     #4
    LDRI      r0,    [r7,   #7]
    SUBI      r0,    #65
    BNE       L252
    BL        L31
    BL        L34
    STRSPI    r0,    [sp,   #1]
    MOVI      r0,    #34
    LDRSPI    r1,    [sp,   #1]
    BL        L15
    BU        L251
L252
    LDRI      r0,    [r7,   #7]
    SUBI      r0,    #32
    BNE       L253
    BL        L31
    BL        L34
    STRSPI    r0,    [sp,   #1]
    MOVI      r0,    #32
    LDRSPI    r1,    [sp,   #1]
    BL        L15
    BU        L251
L253
    BL        L34
    STRSPI    r0,    [sp,   #0]
    MOVI      r0,    #64
    LDRI      r1,    [r7,   #7]
    ANDR      r0,    r1
    BEQ       L254
    LDRI      r0,    [r7,   #7]
    STRSPI    r0,    [sp,   #2]
    BL        L31
    LDRSPI    r0,    [sp,   #2]
    BL        L36
    STRSPI    r0,    [sp,   #3]
    LDRSPI    r0,    [sp,   #2]
    LDRSPI    r1,    [sp,   #0]
    LDRSPI    r2,    [sp,   #3]
    BL        L16
    BU        L251
L254
    LDRSPI    r0,    [sp,   #0]
L251
    INCSP     #4
    POP
```

```
FUNC rright
L36
    PUSH
    DECSP    #3
    STRSPI   r0,    [sp,   #0]
    BL       L34
    STRSPI   r0,    [sp,   #1]
    LDRSPI   r0,    [sp,   #0]
    BL       L37
    LDRSPI   r1,    [sp,   #0]
    LDRI     r2,    [r7,   #7]
    SUBR     r1,    r2,    r1
    BEQ      #1
    MOVI     r1,    #1
    SUBI     r1,    #1
    ANDR     r0,    r1
    BEQ      L256
    BL       L31
    LDRSPI   r0,    [sp,   #0]
    BL       L36
    STRSPI   r0,    [sp,   #2]
    LDRSPI   r0,    [sp,   #0]
    LDRSPI   r1,    [sp,   #1]
    LDRSPI   r2,    [sp,   #2]
    BL       L16
    BU       L255
L256
    LDRSPI   r0,    [sp,   #1]
L255
    INCSP    #3
    POP
```

```
FUNC associative
L37
  PUSH
  DECSP     #1
  STRSPI    r0,    [sp,    #0]
  LDRSPI    r0,    [sp,    #0]
  SUBI      r0,    #66
  BEQ       #1
  MOVI      r0,    #1
  SUBI      r0,    #1
  LDRSPI    r1,    [sp,    #0]
  SUBI      r1,    #64
  BEQ       #1
  MOVI      r1,    #1
  SUBI      r1,    #1
  ORR       r0,    r1
  LDRSPI    r1,    [sp,    #0]
  SUBI      r1,    #71
  BEQ       #1
  MOVI      r1,    #1
  SUBI      r1,    #1
  ORR       r0,    r1
  LDRSPI    r1,    [sp,    #0]
  SUBI      r1,    #69
  BEQ       #1
  MOVI      r1,    #1
  SUBI      r1,    #1
  ORR       r0,    r1
  LDRSPI    r1,    [sp,    #0]
  SUBI      r1,    #70
  BEQ       #1
  MOVI      r1,    #1
  SUBI      r1,    #1
  ORR       r0,    r1
  INCSP     #1
  POP
S85
  DCD       1819044113
  DCD       1818322789
  DCD       1634231072
  DCD       1952670066
  DCD       29285
S90
  DCD       1835101709
  DCD       2019893349
  DCD       1952671088
  DCD       25701
S94
```

```
        DCD       660416268
        DCD       1886938400
        DCD       1702126437
        DCD       100
S98
        DCD       657008396
        DCD       1886938400
        DCD       1702126437
        DCD       100
S102
        DCD       657008396
        DCD       1886938400
        DCD       1702126437
        DCD       100
S106
        DCD       1920099603
        DCD       1763734127
        DCD       2019893358
        DCD       1936028272
        DCD       1852795251
```

```
FUNC rexplist
L38
    PUSH
    DECSP    #2
    BL       L35
    STRSPI   r0,    [sp,   #0]
    LDRI     r0,    [r7,   #7]
    SUBI     r0,    #20
    BNE      L258
    BL       L31
    BL       L38
    STRSPI   r0,    [sp,   #1]
    MOVI     r0,    #20
    LDRSPI   r1,    [sp,   #0]
    LDRSPI   r2,    [sp,   #1]
    BL       L16
    BU       L257
L258
    LDRSPI   r0,    [sp,   #0]
L257
    INCSP    #2
    POP
```

```
FUNC rstatement
L39
    PUSH
    DECSP    #4
    LDRI     r0,    [r7,    #7]
    SUBI     r0,    #16
    BNE      L260
    BL       L31
    MOVI     r0,    #16
    BL       L14
    BU       L259
L260
    LDRI     r0,    [r7,    #7]
    SUBI     r0,    #27
    BNE      L261
    BL       L31
    MOVI     r0,    #27
    BL       L14
    BU       L259
L261
    LDRI     r0,    [r7,    #7]
    SUBI     r0,    #44
    BNE      L262
    BL       L31
    BL       L35
    STRSPI   r0,    [sp,    #3]
    MOVI     r0,    #44
    LDRSPI   r1,    [sp,    #3]
    BL       L15
    BU       L259
L262
    LDRI     r0,    [r7,    #7]
    SUBI     r0,    #10
    BNE      L263
    BL       L31
    BL       L35
    STRSPI   r0,    [sp,    #0]
    MOVI     r0,    #11
    ADDPCI   r1,    S111
    BL       L32
    BL       L39
    STRSPI   r0,    [sp,    #1]
    MOVI     r0,    #12
    ADDPCI   r1,    S115
    BL       L32
    BL       L39
    STRSPI   r0,    [sp,    #2]
    MOVI     r0,    #10
```

```
        LDRSPI   r1,    [sp,   #0]
        LDRSPI   r2,    [sp,   #1]
        LDRSPI   r3,    [sp,   #2]
        BL       L17
        BU       L259
L263
        LDRI     r0,    [r7,   #7]
        SUBI     r0,    #13
        BNE      L264
        BL       L31
        BL       L35
        STRSPI   r0,    [sp,   #0]
        MOVI     r0,    #14
        ADDPCI   r1,    S119
        BL       L32
        BL       L39
        STRSPI   r0,    [sp,   #1]
        MOVI     r0,    #13
        LDRSPI   r1,    [sp,   #0]
        LDRSPI   r2,    [sp,   #1]
        BL       L16
        BU       L259
L264
        LDRI     r0,    [r7,   #7]
        SUBI     r0,    #17
        BNE      L265
        BL       L31
        BL       L40
        STRSPI   r0,    [sp,   #0]
        MOVI     r0,    #18
        ADDPCI   r1,    S123
        BL       L32
        LDRSPI   r0,    [sp,   #0]
        BU       L259
L265
        LDRI     r0,    [r7,   #7]
        SUBI     r0,    #1
        BNE      L266
        BL       L34
        STRSPI   r0,    [sp,   #0]
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        SUBI     r0,    #8
        BNE      L267
        LDRSPI   r0,    [sp,   #0]
        MOVI     r1,    #9
        LDRI     r2,    [r7,   #2]
```

```
        LSLI      r0,    r0,    #2
        STRR      r1,    [r2,   r0]
        LDRSPI    r0,    [sp,   #0]
        BU        L259
L267
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        SUBI      r0,    #80
        BNE       L268
        LDRSPI    r0,    [sp,   #0]
        MOVI      r1,    #81
        LDRI      r2,    [r7,   #2]
        LSLI      r0,    r0,    #2
        STRR      r1,    [r2,   r0]
L268
        MOVI      r0,    #15
        ADDPCI    r1,    S127
        BL        L32
        BL        L35
        STRSPI    r0,    [sp,   #3]
        MOVI      r0,    #15
        LDRSPI    r1,    [sp,   #0]
        LDRSPI    r2,    [sp,   #3]
        BL        L16
        BU        L259
L266
        ADDPCI    r0,    S131
        BL        L12
        MOVI      r0,    #27
        BL        L14
L259
        INCSP     #4
        POP
```

```
FUNC rstatements
L40
    PUSH
    DECSP    #2
    BL       L39
    STRSPI   r0,   [sp,   #0]
    LDRI     r0,   [r7,   #7]
    SUBI     r0,   #19
    BNE      L270
    BL       L31
    BL       L40
    STRSPI   r0,   [sp,   #1]
    MOVI     r0,   #19
    LDRSPI   r1,   [sp,   #0]
    LDRSPI   r2,   [sp,   #1]
    BL       L16
    BU       L269
L270
    LDRSPI   r0,   [sp,   #0]
L269
    INCSP    #2
    POP
```

```
FUNC rprocdecls
L41
   PUSH
   DECSP    #2
   BL       L42
   STRSPI   r0,   [sp,   #0]
   LDRI     r0,   [r7,   #7]
   SUBI     r0,   #25
   BEQ      #1
   MOVI     r0,   #1
   SUBI     r0,   #1
   LDRI     r1,   [r7,   #7]
   SUBI     r1,   #24
   BEQ      #1
   MOVI     r1,   #1
   SUBI     r1,   #1
   ORR      r0,   r1
   BEQ      L272
   BL       L41
   STRSPI   r0,   [sp,   #1]
   MOVI     r0,   #19
   LDRSPI   r1,   [sp,   #0]
   LDRSPI   r2,   [sp,   #1]
   BL       L16
   BU       L271
L272
   LDRSPI   r0,   [sp,   #0]
L271
   INCSP    #2
   POP
```

```
FUNC rprocdecl
L42
    PUSH
    DECSP    #5
    LDRI     r0,    [r7,    #7]
    STRSPI   r0,    [sp,    #0]
    BL       L31
    BL       L33
    STRSPI   r0,    [sp,    #1]
    MOVI     r0,    #6
    ADDPCI   r1,    S136
    BL       L32
    LDRI     r0,    [r7,    #7]
    SUBI     r0,    #7
    BNE      L274
    LDRI     r0,    [r7,    #5]
    STRSPI   r0,    [sp,    #2]
    BU       L273
L274
    BL       L43
    STRSPI   r0,    [sp,    #2]
L273
    MOVI     r0,    #7
    ADDPCI   r1,    S140
    BL       L32
    MOVI     r0,    #26
    ADDPCI   r1,    S144
    BL       L32
    LDRI     r0,    [r7,    #7]
    SUBI     r0,    #35
    BEQ      #1
    MOVI     r0,    #1
    SUBI     r0,    #1
    LDRI     r1,    [r7,    #7]
    SUBI     r1,    #21
    BEQ      #1
    MOVI     r1,    #1
    SUBI     r1,    #1
    ORR      r0,    r1
    BEQ      L276
    BL       L45
    STRSPI   r0,    [sp,    #3]
    BU       L275
L276
    LDRI     r0,    [r7,    #5]
    STRSPI   r0,    [sp,    #3]
L275
    BL       L39
```

```
STRSPI    r0,    [sp,    #4]
MOVI      r0,    #23
LDRSPI    r1,    [sp,    #3]
LDRSPI    r2,    [sp,    #4]
BL        L16
STRSPI    r0,    [sp,    #3]
LDRSPI    r0,    [sp,    #0]
LDRSPI    r1,    [sp,    #1]
LDRSPI    r2,    [sp,    #2]
LDRSPI    r3,    [sp,    #3]
BL        L17
INCSP     #5
POP
```

```
FUNC rformals
L43
    PUSH
    DECSP      #4
    LDRI       r0,    [r7,    #7]
    SUBI       r0,    #24
    BEQ        #1
    MOVI       r0,    #1
    SUBI       r0,    #1
    LDRI       r1,    [r7,    #7]
    SUBI       r1,    #22
    BEQ        #1
    MOVI       r1,    #1
    SUBI       r1,    #1
    ORR        r0,    r1
    LDRI       r1,    [r7,    #7]
    SUBI       r1,    #35
    BEQ        #1
    MOVI       r1,    #1
    SUBI       r1,    #1
    ORR        r0,    r1
    BEQ        L277
    LDRI       r0,    [r7,    #7]
    STRSPI     r0,    [sp,    #0]
    BL         L31
    LDRI       r0,    [r7,    #7]
    SUBI       r0,    #1
    BNE        L278
    BL         L33
    STRSPI     r0,    [sp,    #3]
    LDRSPI     r0,    [sp,    #0]
    LDRSPI     r1,    [sp,    #3]
    BL         L15
    STRSPI     r0,    [sp,    #1]
    BU         L277
L278
    ADDPCI     r0,    S148
    BL         L12
L277
    LDRI       r0,    [r7,    #7]
    SUBI       r0,    #20
    BNE        L280
    BL         L31
    BL         L43
    STRSPI     r0,    [sp,    #2]
    MOVI       r0,    #20
    LDRSPI     r1,    [sp,    #1]
    LDRSPI     r2,    [sp,    #2]
```

```
    BL          L16
    BU          L279
L280
    LDRSPI      r0,    [sp,   #1]
L279
    INCSP       #4
    POP
S111
    DCD         1752442639
    DCD         539455077
    DCD         1701869669
    DCD         1684370531
S115
    DCD         1818568463
    DCD         539452787
    DCD         1701869669
    DCD         1684370531
S119
    DCD         1868834573
    DCD         2019893287
    DCD         1952671088
    DCD         25701
S123
    DCD         662513420
    DCD         1886938400
    DCD         1702126437
    DCD         100
S127
    DCD         1027221261
    DCD         2019893287
    DCD         1952671088
    DCD         25701
S131
    DCD         1920099600
    DCD         1763734127
    DCD         1868767342
    DCD         1851878765
    DCD         100
S136
    DCD         656942860
    DCD         1886938400
    DCD         1702126437
    DCD         100
S140
    DCD         657008396
    DCD         1886938400
    DCD         1702126437
    DCD         100
S144
```

```
    DCD      1936271117
    DCD      2019893287
    DCD      1952671088
    DCD      25701
S148
    DCD      1835101709
    DCD      2019893349
    DCD      1952671088
    DCD      25701
```

```
FUNC rgdecls
L44
    PUSH
    DECSP   #2
    BL      L46
    STRSPI  r0,   [sp,  #0]
    LDRI    r0,   [r7,  #7]
    SUBI    r0,   #22
    BEQ     #1
    MOVI    r0,   #1
    SUBI    r0,   #1
    LDRI    r1,   [r7,  #7]
    SUBI    r1,   #21
    BEQ     #1
    MOVI    r1,   #1
    SUBI    r1,   #1
    ORR     r0,   r1
    LDRI    r1,   [r7,  #7]
    SUBI    r1,   #35
    BEQ     #1
    MOVI    r1,   #1
    SUBI    r1,   #1
    ORR     r0,   r1
    BEQ     L282
    BL      L44
    STRSPI  r0,   [sp,  #1]
    MOVI    r0,   #19
    LDRSPI  r1,   [sp,  #0]
    LDRSPI  r2,   [sp,  #1]
    BL      L16
    BU      L281
L282
    LDRSPI  r0,   [sp,  #0]
L281
    INCSP   #2
    POP
```

```
FUNC rldecls
L45
    PUSH
    DECSP   #2
    BL      L46
    STRSPI  r0,     [sp,    #0]
    LDRI    r0,     [r7,    #7]
    SUBI    r0,     #21
    BEQ     #1
    MOVI    r0,     #1
    SUBI    r0,     #1
    LDRI    r1,     [r7,    #7]
    SUBI    r1,     #35
    BEQ     #1
    MOVI    r1,     #1
    SUBI    r1,     #1
    ORR     r0,     r1
    BEQ     L284
    BL      L45
    STRSPI  r0,     [sp,    #1]
    MOVI    r0,     #19
    LDRSPI  r1,     [sp,    #0]
    LDRSPI  r2,     [sp,    #1]
    BL      L16
    BU      L283
L284
    LDRSPI  r0,     [sp,    #0]
L283
    INCSP   #2
    POP
```

```
FUNC rdecl
L46
    PUSH
    DECSP    #3
    LDRI     r0,    [r7,   #7]
    SUBI     r0,    #21
    BNE      L286
    BL       L31
    BL       L33
    STRSPI   r0,    [sp,   #2]
    MOVI     r0,    #21
    LDRSPI   r1,    [sp,   #2]
    BL       L15
    STRSPI   r0,    [sp,   #0]
    BU       L285
L286
    LDRI     r0,    [r7,   #7]
    SUBI     r0,    #22
    BNE      L287
    BL       L31
    BL       L33
    STRSPI   r0,    [sp,   #0]
    MOVI     r0,    #3
    ADDPCI   r1,    S152
    BL       L32
    BL       L35
    STRSPI   r0,    [sp,   #1]
    MOVI     r0,    #4
    ADDPCI   r1,    S156
    BL       L32
    MOVI     r0,    #22
    LDRSPI   r1,    [sp,   #0]
    LDRSPI   r2,    [sp,   #1]
    BL       L16
    STRSPI   r0,    [sp,   #0]
    BU       L285
L287
    LDRI     r0,    [r7,   #7]
    SUBI     r0,    #35
    BNE      L285
    BL       L31
    BL       L33
    STRSPI   r0,    [sp,   #0]
    MOVI     r0,    #74
    ADDPCI   r1,    S160
    BL       L32
    BL       L35
    STRSPI   r0,    [sp,   #1]
```

```
        MOVI    r0,    #35
        LDRSPI  r1,    [sp,   #0]
        LDRSPI  r2,    [sp,   #1]
        BL      L16
        STRSPI  r0,    [sp,   #0]
L285
        MOVI    r0,    #19
        ADDPCI  r1,    S164
        BL      L32
        LDRSPI  r0,    [sp,   #0]
        INCSP   #3
        POP
```

```
PROC namemessage
L47
    PUSH
    DECSP    #7
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    LDRSPI   r0,    [sp,   #0]
    BL       L8
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #1]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    SUBI     r0,    #1
    BNE      L288
    MOVI     r0,    #1
    STRSPI   r0,    [sp,   #2]
    MOVI     r0,    #2
    STRSPI   r0,    [sp,   #3]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #3]
    LDRSPI   r2,    [sp,   #1]
    ADDR     r1,    r1,    r2
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #4]
    MOVI     r0,    #255
    LDRSPI   r1,    [sp,   #4]
    ANDR     r0,    r1
    STRSPI   r0,    [sp,   #5]
    LDRSPI   r0,    [sp,   #4]
    LSRI     r0,    r0,    #8
    STRSPI   r0,    [sp,   #4]
    MOVI     r0,    #1
    STRSPI   r0,    [sp,   #6]
L289
    LDRSPI   r0,    [sp,   #2]
    LDRSPI   r1,    [sp,   #5]
    SUBR     r0,    r1,    r0
    BLT      L288
    MOVI     r0,    #255
    LDRSPI   r1,    [sp,   #4]
    ANDR     r0,    r1
    BL       L4
    LDRSPI   r0,    [sp,   #4]
    LSRI     r0,    r0,    #8
    STRSPI   r0,    [sp,   #4]
    LDRSPI   r0,    [sp,   #2]
    ADDI     r0,    #1
```

```
        STRSPI    r0,     [sp,    #2]
        LDRSPI    r0,     [sp,    #6]
        ADDI      r0,     #1
        STRSPI    r0,     [sp,    #6]
        LDRSPI    r0,     [sp,    #6]
        SUBI      r0,     #4
        BNE       L289
        MOVI      r0,     #0
        STRSPI    r0,     [sp,    #6]
        LDRSPI    r0,     [sp,    #3]
        ADDI      r0,     #1
        STRSPI    r0,     [sp,    #3]
        LDRI      r0,     [r7,    #2]
        LDRSPI    r1,     [sp,    #3]
        LDRSPI    r2,     [sp,    #1]
        ADDR      r1,     r1,     r2
        LSLI      r1,     r1,     #2
        LDRR      r0,     [r0,    r1]
        STRSPI    r0,     [sp,    #4]
        BU        L289
L288
        BL        L5
        INCSP     #7
        POP
```

```
PROC generror
L48
   PUSH
   DECSP     #1
   STRSPI    r0,    [sp,   #0]
   LDRSPI    r0,    [sp,   #0]
   BL        L8
   BL        L5
   ADDPCI    r0,    S168
   LDRI      r1,    [r7,   #2]
   LDRI      r2,    [r7,   #31]
   ADDI      r2,    #1
   LSLI      r2,    r2,    #2
   LDRR      r1,    [r1,   r2]
   BL        L47
   INCSP     #1
   POP
```

```
PROC declprocs
L49
   PUSH
   DECSP    #2
   STRSPI   r0,   [sp,   #0]
   LDRI     r0,   [r7,   #2]
   LDRSPI   r1,   [sp,   #0]
   LSLI     r1,   r1,   #2
   LDRR     r0,   [r0,   r1]
   SUBI     r0,   #19
   BNE      L291
   LDRI     r0,   [r7,   #2]
   LDRSPI   r1,   [sp,   #0]
   ADDI     r1,   #1
   LSLI     r1,   r1,   #2
   LDRR     r0,   [r0,   r1]
   BL       L49
   LDRI     r0,   [r7,   #2]
   LDRSPI   r1,   [sp,   #0]
   ADDI     r1,   #2
   LSLI     r1,   r1,   #2
   LDRR     r0,   [r0,   r1]
   BU       L49+2
L291
   BL       L112
   STRSPI   r0,   [sp,   #1]
   LDRSPI   r0,   [sp,   #0]
   LDRSPI   r1,   [sp,   #1]
   BL       L55
L290
   INCSP    #2
   POP
```

```
PROC declformals
L50
   PUSH
   DECSP    #2
   STRSPI   r0,   [sp,   #0]
   LDRI     r0,   [r7,   #2]
   LDRSPI   r1,   [sp,   #0]
   LSLI     r1,   r1,    #2
   LDRR     r0,   [r0,   r1]
   STRSPI   r0,   [sp,   #1]
   LDRSPI   r0,   [sp,   #1]
   ADDI     r0,   #0
   BEQ      L292
   LDRSPI   r0,   [sp,   #1]
   SUBI     r0,   #20
   BNE      L293
   LDRI     r0,   [r7,   #2]
   LDRSPI   r1,   [sp,   #0]
   ADDI     r1,   #1
   LSLI     r1,   r1,    #2
   LDRR     r0,   [r0,   r1]
   BL       L50
   LDRI     r0,   [r7,   #2]
   LDRSPI   r1,   [sp,   #0]
   ADDI     r1,   #2
   LSLI     r1,   r1,    #2
   LDRR     r0,   [r0,   r1]
   BU       L50+2
L293
   LDRSPI   r0,   [sp,   #1]
   SUBI     r0,   #35
   BNE      L294
   LDRSPI   r0,   [sp,   #0]
   MOVI     r1,   #21
   LDRI     r2,   [r7,   #2]
   LSLI     r0,   r0,    #2
   STRR     r1,   [r2,   r0]
L294
   LDRSPI   r0,   [sp,   #0]
   MOVI     r1,   #132
   LDRR     r1,   [r7,   r1]
   BL       L55
   MOVI     r0,   #132
   LDRR     r0,   [r7,   r0]
   ADDI     r0,   #1
   MOVI     r1,   #132
   STRR     r0,   [r7,   r1]
L292
```

```
INCSP     #2
POP
```

```
PROC tformals
L51
    PUSH
    DECSP     #2
    STRSPI    r0,   [sp,   #0]
    LDRI      r0,   [r7,   #2]
    LDRSPI    r1,   [sp,   #0]
    LSLI      r1,   r1,   #2
    LDRR      r0,   [r0,   r1]
    STRSPI    r0,   [sp,   #1]
    LDRSPI    r0,   [sp,   #1]
    ADDI      r0,   #0
    BEQ       L295
    LDRSPI    r0,   [sp,   #1]
    SUBI      r0,   #20
    BNE       L296
    LDRI      r0,   [r7,   #2]
    LDRSPI    r1,   [sp,   #0]
    ADDI      r1,   #1
    LSLI      r1,   r1,   #2
    LDRR      r0,   [r0,   r1]
    BL        L51
    LDRI      r0,   [r7,   #2]
    LDRSPI    r1,   [sp,   #0]
    ADDI      r1,   #2
    LSLI      r1,   r1,   #2
    LDRR      r0,   [r0,   r1]
    BU        L51+2
L296
    MOVI      r0,   #18
    MOVI      r1,   #132
    LDRR      r1,   [r7,   r1]
    MOVI      r2,   #132
    LDRR      r2,   [r7,   r2]
    BL        L100
    MOVI      r0,   #132
    LDRR      r0,   [r7,   r0]
    ADDI      r0,   #1
    MOVI      r1,   #132
    STRR      r0,   [r7,   r1]
L295
    INCSP     #2
    POP
```

```
PROC declglobals
L52
    PUSH
    DECSP     #3
    STRSPI    r0,   [sp,   #0]
    LDRI      r0,   [r7,   #2]
    LDRSPI    r1,   [sp,   #0]
    LSLI      r1,   r1,    #2
    LDRR      r0,   [r0,   r1]
    STRSPI    r0,   [sp,   #1]
    LDRSPI    r0,   [sp,   #1]
    SUBI      r0,   #19
    BNE       L298
    LDRI      r0,   [r7,   #2]
    LDRSPI    r1,   [sp,   #0]
    ADDI      r1,   #1
    LSLI      r1,   r1,    #2
    LDRR      r0,   [r0,   r1]
    BL        L52
    LDRI      r0,   [r7,   #2]
    LDRSPI    r1,   [sp,   #0]
    ADDI      r1,   #2
    LSLI      r1,   r1,    #2
    LDRR      r0,   [r0,   r1]
    BU        L52+2
L298
    LDRSPI    r0,   [sp,   #1]
    SUBI      r0,   #21
    BNE       L299
    LDRSPI    r0,   [sp,   #0]
    MOVI      r1,   #132
    LDRR      r1,   [r7,   r1]
    BL        L55
    MOVI      r0,   #132
    LDRR      r0,   [r7,   r0]
    ADDI      r0,   #1
    MOVI      r1,   #132
    STRR      r0,   [r7,   r1]
    BU        L297
L299
    LDRSPI    r0,   [sp,   #1]
    SUBI      r0,   #35
    BNE       L300
    LDRI      r0,   [r7,   #2]
    LDRSPI    r1,   [sp,   #0]
    ADDI      r1,   #2
    LSLI      r1,   r1,    #2
    LDRR      r0,   [r0,   r1]
```

```
        BL        L59
        LDRSPI    r1,    [sp,    #0]
        ADDI      r1,    #2
        LDRI      r2,    [r7,    #2]
        LSLI      r1,    r1,     #2
        STRR      r0,    [r2,    r1]
        LDRI      r0,    [r7,    #2]
        LDRSPI    r1,    [sp,    #0]
        ADDI      r1,    #2
        LSLI      r1,    r1,     #2
        LDRR      r0,    [r0,    r1]
        BL        L60
        BEQ       L301
        LDRI      r0,    [r7,    #2]
        LDRSPI    r1,    [sp,    #0]
        ADDI      r1,    #2
        LSLI      r1,    r1,     #2
        LDRR      r0,    [r0,    r1]
        BL        L61
        STRSPI    r0,    [sp,    #2]
        LDRSPI    r0,    [sp,    #0]
        LDRSPI    r1,    [sp,    #2]
        BL        L55
        BU        L297
L301
        ADDPCI    r0,    S172
        BL        L48
        BU        L297
L300
        LDRSPI    r0,    [sp,    #1]
        SUBI      r0,    #22
        BNE       L297
        LDRI      r0,    [r7,    #2]
        LDRSPI    r1,    [sp,    #0]
        ADDI      r1,    #2
        LSLI      r1,    r1,     #2
        LDRR      r0,    [r0,    r1]
        BL        L59
        LDRSPI    r1,    [sp,    #0]
        ADDI      r1,    #2
        LDRI      r2,    [r7,    #2]
        LSLI      r1,    r1,     #2
        STRR      r0,    [r2,    r1]
        LDRI      r0,    [r7,    #2]
        LDRSPI    r1,    [sp,    #0]
        ADDI      r1,    #2
        LSLI      r1,    r1,     #2
        LDRR      r0,    [r0,    r1]
        BL        L60
```

```
        BEQ      L302
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #2
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        BL       L61
        LDRI     r1,    [r7,   #28]
        ADDR     r0,    r0,    r1
        STRI     r0,    [r7,   #28]
        LDRSPI   r0,    [sp,   #0]
        MOVI     r1,    #132
        LDRR     r1,    [r7,   r1]
        BL       L55
        MOVI     r0,    #132
        LDRR     r0,    [r7,   r0]
        ADDI     r0,    #1
        MOVI     r1,    #132
        STRR     r0,    [r7,   r1]
        BU       L297
S152
        DCD      660285196
        DCD      1886938400
        DCD      1702126437
        DCD      100
S156
        DCD      660416268
        DCD      1886938400
        DCD      1702126437
        DCD      100
S160
        DCD      658319116
        DCD      1886938400
        DCD      1702126437
        DCD      100
S164
        DCD      658188044
        DCD      1886938400
        DCD      1702126437
        DCD      100
S168
        DCD      544106764
        DCD      1668183398
        DCD      1852795252
        DCD      32
S172
        DCD      1852793628
        DCD      1851880563
        DCD      2019893364
```

```
        DCD       1936028272
        DCD       1852795251
        DCD       1886938400
        DCD       1702126437
        DCD       100
L302
        ADDPCI   r0,    S180
        BL        L48
L297
        INCSP     #3
        POP
```

```
PROC tglobals
L53
    PUSH
    DECSP    #3
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #0]
    LDRI     r0,    [r7,    #28]
    LSLI     r0,    r0,     #2
    LDRPCI   r1,    C13
    SUBR     r0,    r1,     r0
    STRSPI   r0,    [sp,    #1]
    MOVI     r0,    #7
    MOVI     r1,    #132
    LDRR     r1,    [r7,    r1]
    LSLI     r1,    r1,     #2
    LDRSPI   r2,    [sp,    #1]
    SUBR     r1,    r2,     r1
    BL       L91
    MOVI     r0,    #7
    BL       L101
L304
    LDRI     r0,    [r7,    #20]
    LDRSPI   r1,    [sp,    #0]
    SUBR     r0,    r1,     r0
    BGE      L303
    LDRI     r0,    [r7,    #18]
    LDRSPI   r1,    [sp,    #0]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    STRSPI   r0,    [sp,    #2]
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #2]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    SUBI     r0,    #22
    BNE      L305
    MOVI     r0,    #0
    LDRSPI   r1,    [sp,    #1]
    BL       L91
    MOVI     r0,    #18
    MOVI     r1,    #0
    LDRI     r2,    [r7,    #19]
    LDRSPI   r3,    [sp,    #0]
    LSLI     r3,    r3,     #2
    LDRR     r2,    [r2,    r3]
    BL       L100
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #2]
```

```
        ADDI      r1,     #2
        LSLI      r1,     r1,     #2
        LDRR      r0,     [r0,    r1]
        BL        L61
        LSLI      r0,     r0,     #2
        LDRSPI    r1,     [sp,    #1]
        ADDR      r0,     r0,     r1
        STRSPI    r0,     [sp,    #1]
L305
        LDRSPI    r0,     [sp,    #0]
        ADDI      r0,     #1
        STRSPI    r0,     [sp,    #0]
        BU        L304
L303
        INCSP     #3
        POP
```

```
PROC decllocals
L54
    PUSH
    DECSP     #3
    STRSPI    r0,    [sp,   #0]
    LDRI      r0,    [r7,   #2]
    LDRSPI    r1,    [sp,   #0]
    LSLI      r1,    r1,    #2
    LDRR      r0,    [r0,   r1]
    STRSPI    r0,    [sp,   #1]
    LDRSPI    r0,    [sp,   #1]
    ADDI      r0,    #0
    BEQ       L306
    LDRSPI    r0,    [sp,   #1]
    SUBI      r0,    #19
    BNE       L307
    LDRI      r0,    [r7,   #2]
    LDRSPI    r1,    [sp,   #0]
    ADDI      r1,    #1
    LSLI      r1,    r1,    #2
    LDRR      r0,    [r0,   r1]
    BL        L54
    LDRI      r0,    [r7,   #2]
    LDRSPI    r1,    [sp,   #0]
    ADDI      r1,    #2
    LSLI      r1,    r1,    #2
    LDRR      r0,    [r0,   r1]
    BU        L54+2
L307
    LDRSPI    r0,    [sp,   #1]
    SUBI      r0,    #21
    BNE       L308
    LDRSPI    r0,    [sp,   #0]
    MOVI      r1,    #132
    LDRR      r1,    [r7,   r1]
    BL        L55
    MOVI      r0,    #132
    LDRR      r0,    [r7,   r0]
    ADDI      r0,    #1
    MOVI      r1,    #132
    STRR      r0,    [r7,   r1]
    BU        L306
L308
    LDRSPI    r0,    [sp,   #1]
    SUBI      r0,    #35
    BNE       L306
    LDRI      r0,    [r7,   #2]
    LDRSPI    r1,    [sp,   #0]
```

```
        ADDI     r1,    #2
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        BL       L59
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #2
        LDRI     r2,    [r7,   #2]
        LSLI     r1,    r1,    #2
        STRR     r0,    [r2,   r1]
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #2
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        BL       L60
        BEQ      L309
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #2
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        BL       L61
        STRSPI   r0,    [sp,   #2]
        LDRSPI   r0,    [sp,   #0]
        LDRSPI   r1,    [sp,   #2]
        BL       L55
        BU       L306
L309
        ADDPCI   r0,    S188
        BL       L48
L306
        INCSP    #3
        POP
```

```
PROC addname
L55
    PUSH
    DECSP    #2
    STRSPI   r0,   [sp,   #0]
    STRSPI   r1,   [sp,   #1]
    LDRI     r0,   [r7,   #20]
    LDRSPI   r1,   [sp,   #0]
    LDRI     r2,   [r7,   #18]
    LSLI     r0,   r0,    #2
    STRR     r1,   [r2,   r0]
    LDRI     r0,   [r7,   #20]
    LDRSPI   r1,   [sp,   #1]
    LDRI     r2,   [r7,   #19]
    LSLI     r0,   r0,    #2
    STRR     r1,   [r2,   r0]
    LDRI     r0,   [r7,   #20]
    ADDI     r0,   #1
    STRI     r0,   [r7,   #20]
    INCSP    #2
    POP
```

```
FUNC findname
L56
    PUSH
    DECSP    #3
    STRSPI   r0,    [sp,   #0]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,   #2]
    LDRI     r0,    [r7,   #20]
    SUBI     r0,    #1
    STRSPI   r0,    [sp,   #1]
L311
    LDRSPI   r0,    [sp,   #1]
    SUBI     r0,    #0
    ASRI     r0,    r0,    #31
    MOVNR    r0,    r0
    LDRSPI   r1,    [sp,   #2]
    SUBI     r1,    #0
    BEQ      #1
    MOVI     r1,    #1
    SUBI     r1,    #1
    ANDR     r0,    r1
    BEQ      L310
    LDRI     r0,    [r7,   #2]
    LDRI     r1,    [r7,   #18]
    LDRSPI   r2,    [sp,   #1]
    LSLI     r2,    r2,    #2
    LDRR     r1,    [r1,   r2]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    LDRSPI   r1,    [sp,   #0]
    SUBR     r0,    r0,    r1
    BNE      L312
    MOVI     r0,    #1
    NEGR     r0,    r0
    STRSPI   r0,    [sp,   #2]
    BU       L311
L312
    LDRSPI   r0,    [sp,   #1]
    SUBI     r0,    #1
    STRSPI   r0,    [sp,   #1]
    BU       L311
L310
    LDRSPI   r0,    [sp,   #2]
    ADDI     r0,    #0
    BNE      L313
    ADDPCI   r0,    S196
    LDRSPI   r1,    [sp,   #0]
```

```
        BL        L47
        ADDPCI    r0,    S201
        LDRI      r1,    [r7,   #2]
        LDRI      r2,    [r7,   #31]
        ADDI      r2,    #1
        LSLI      r2,    r2,    #2
        LDRR      r1,    [r1,   r2]
        BL        L47
L313
        LDRSPI    r0,    [sp,   #1]
        INCSP     #3
        POP
```

```
FUNC islocal
L57
    PUSH
    DECSP    #1
    STRSPI   r0,   [sp,   #0]
    LDRI     r0,   [r7,   #21]
    LDRSPI   r1,   [sp,   #0]
    SUBR     r0,   r1,    r0
    ASRI     r0,   r0,    #31
    MOVNR    r0,   r0
    INCSP    #1
    POP
```

```
PROC optimise
L58
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,    #0]
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,    r1]
    STRSPI   r0,    [sp,    #1]
    LDRSPI   r0,    [sp,    #1]
    SUBI     r0,    #27
    BEQ      #1
    MOVI     r0,    #1
    SUBI     r0,    #1
    LDRSPI   r1,    [sp,    #1]
    SUBI     r1,    #16
    BEQ      #1
    MOVI     r1,    #1
    SUBI     r1,    #1
    ORR      r0,    r1
    BEQ      #1
    BU       L314
    LDRSPI   r0,    [sp,    #1]
    SUBI     r0,    #44
    BNE      L315
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,    r1]
    BL       L59
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #1
    LDRI     r2,    [r7,    #2]
    LSLI     r1,    r1,    #2
    STRR     r0,    [r2,    r1]
    BU       L314
L315
    LDRSPI   r0,    [sp,    #1]
    SUBI     r0,    #10
    BNE      L316
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,    r1]
    BL       L59
```

```
        LDRSPI   r1,   [sp,   #0]
        ADDI     r1,   #1
        LDRI     r2,   [r7,   #2]
        LSLI     r1,   r1,   #2
        STRR     r0,   [r2,   r1]
        LDRI     r0,   [r7,   #2]
        LDRSPI   r1,   [sp,   #0]
        ADDI     r1,   #2
        LSLI     r1,   r1,   #2
        LDRR     r0,   [r0,   r1]
        BL       L58
        LDRI     r0,   [r7,   #2]
        LDRSPI   r1,   [sp,   #0]
        ADDI     r1,   #3
        LSLI     r1,   r1,   #2
        LDRR     r0,   [r0,   r1]
        BU       L58+2
L316
        LDRSPI   r0,   [sp,   #1]
        SUBI     r0,   #13
        BNE      L317
        LDRI     r0,   [r7,   #2]
        LDRSPI   r1,   [sp,   #0]
        ADDI     r1,   #1
        LSLI     r1,   r1,   #2
        LDRR     r0,   [r0,   r1]
        BL       L59
        LDRSPI   r1,   [sp,   #0]
        ADDI     r1,   #1
        LDRI     r2,   [r7,   #2]
        LSLI     r1,   r1,   #2
        STRR     r0,   [r2,   r1]
        LDRI     r0,   [r7,   #2]
        LDRSPI   r1,   [sp,   #0]
        ADDI     r1,   #2
        LSLI     r1,   r1,   #2
        LDRR     r0,   [r0,   r1]
        BU       L58+2
L317
        LDRSPI   r0,   [sp,   #1]
        SUBI     r0,   #15
        BNE      L318
        LDRI     r0,   [r7,   #2]
        LDRSPI   r1,   [sp,   #0]
        ADDI     r1,   #2
        LSLI     r1,   r1,   #2
        LDRR     r0,   [r0,   r1]
        BL       L59
        LDRSPI   r1,   [sp,   #0]
```

```
        ADDI      r1,    #2
        LDRI      r2,    [r7,   #2]
        LSLI      r1,    r1,    #2
        STRR      r0,    [r2,   r1]
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #1
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        BL        L59
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #1
        LDRI      r2,    [r7,   #2]
        LSLI      r1,    r1,    #2
        STRR      r0,    [r2,   r1]
        BU        L314
L318
        LDRSPI    r0,    [sp,   #1]
        SUBI      r0,    #9
        BNE       L319
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #2
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        BL        L59
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #2
        LDRI      r2,    [r7,   #2]
        LSLI      r1,    r1,    #2
        STRR      r0,    [r2,   r1]
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #1
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        BL        L59
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #1
        LDRI      r2,    [r7,   #2]
        LSLI      r1,    r1,    #2
        STRR      r0,    [r2,   r1]
        BU        L314
C13
        DCD       200000
S180
        DCD       1852793628
        DCD       1851880563
        DCD       2019893364
```

```
         DCD       1936028272
         DCD       1852795251
         DCD       1886938400
         DCD       1702126437
         DCD       100
S188
         DCD       1852793628
         DCD       1851880563
         DCD       2019893364
         DCD       1936028272
         DCD       1852795251
         DCD       1886938400
         DCD       1702126437
         DCD       100
S196
         DCD       1835101714
         DCD       1869488229
         DCD       1701060724
         DCD       1918987363
         DCD       2122853
S201
         DCD       544106763
         DCD       1668183398
         DCD       1852795252
L319
         LDRSPI    r0,    [sp,   #1]
         SUBI      r0,    #19
         BNE       L314
         LDRI      r0,    [r7,   #2]
         LDRSPI    r1,    [sp,   #0]
         ADDI      r1,    #1
         LSLI      r1,    r1,    #2
         LDRR      r0,    [r0,   r1]
         BL        L58
         LDRI      r0,    [r7,   #2]
         LDRSPI    r1,    [sp,   #0]
         ADDI      r1,    #2
         LSLI      r1,    r1,    #2
         LDRR      r0,    [r0,   r1]
         BU        L58+2
L314
         INCSP     #2
         POP
```

```
FUNC optimiseexpr
L59
    PUSH
    DECSP    #10
    STRSPI   r0,    [sp,   #0]
    LDRSPI   r0,    [sp,   #0]
    STRSPI   r0,    [sp,   #3]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #1]
    LDRSPI   r0,    [sp,   #1]
    SUBI     r0,    #1
    BNE      L321
    LDRSPI   r0,    [sp,   #0]
    BL       L56
    STRSPI   r0,    [sp,   #2]
    LDRI     r0,    [r7,   #2]
    LDRI     r1,    [r7,   #18]
    LDRSPI   r2,    [sp,   #2]
    LSLI     r2,    r2,    #2
    LDRR     r1,    [r1,   r2]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    SUBI     r0,    #35
    BEQ      #1
    BU       L320
    LDRI     r0,    [r7,   #2]
    LDRI     r1,    [r7,   #18]
    LDRSPI   r2,    [sp,   #2]
    LSLI     r2,    r2,    #2
    LDRR     r1,    [r1,   r2]
    ADDI     r1,    #2
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #3]
    BU       L320
L321
    LDRSPI   r0,    [sp,   #1]
    BL       L95
    BEQ      L322
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    BL       L59
```

```
   LDRSPI   r1,    [sp,   #0]
   ADDI     r1,    #1
   LDRI     r2,    [r7,   #2]
   LSLI     r1,    r1,    #2
   STRR     r0,    [r2,   r1]
   LDRI     r0,    [r7,   #2]
   LDRSPI   r1,    [sp,   #0]
   LSLI     r1,    r1,    #2
   LDRR     r0,    [r0,   r1]
   STRSPI   r0,    [sp,   #1]
   LDRI     r0,    [r7,   #2]
   LDRSPI   r1,    [sp,   #3]
   ADDI     r1,    #1
   LSLI     r1,    r1,    #2
   LDRR     r0,    [r0,   r1]
   BL       L60
   BNE      #1
   BU       L320
   LDRSPI   r0,    [sp,   #0]
   BL       L62
   LDRSPI   r1,    [sp,   #0]
   ADDI     r1,    #1
   LDRI     r2,    [r7,   #2]
   LSLI     r1,    r1,    #2
   STRR     r0,    [r2,   r1]
   LDRSPI   r0,    [sp,   #0]
   MOVI     r1,    #2
   LDRI     r2,    [r7,   #2]
   LSLI     r0,    r0,    #2
   STRR     r1,    [r2,   r0]
   BU       L320
L322
   LDRSPI   r0,    [sp,   #1]
   SUBI     r0,    #8
   BNE      L323
   LDRI     r0,    [r7,   #2]
   LDRSPI   r1,    [sp,   #0]
   ADDI     r1,    #2
   LSLI     r1,    r1,    #2
   LDRR     r0,    [r0,   r1]
   BL       L59
   LDRSPI   r1,    [sp,   #0]
   ADDI     r1,    #2
   LDRI     r2,    [r7,   #2]
   LSLI     r1,    r1,    #2
   STRR     r0,    [r2,   r1]
   LDRI     r0,    [r7,   #2]
   LDRSPI   r1,    [sp,   #0]
   ADDI     r1,    #1
```

```
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        BL       L59
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #1
        LDRI     r2,    [r7,   #2]
        LSLI     r1,    r1,    #2
        STRR     r0,    [r2,   r1]
        BU       L320
L323
        LDRSPI   r0,    [sp,   #1]
        BL       L96
        BNE      #1
        BU       L324
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #2
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        BL       L59
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #2
        LDRI     r2,    [r7,   #2]
        LSLI     r1,    r1,    #2
        STRR     r0,    [r2,   r1]
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #1
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        BL       L59
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #1
        LDRI     r2,    [r7,   #2]
        LSLI     r1,    r1,    #2
        STRR     r0,    [r2,   r1]
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #1
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        STRSPI   r0,    [sp,   #5]
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #2
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        STRSPI   r0,    [sp,   #6]
        LDRI     r0,    [r7,   #2]
```

```
      LDRSPI   r1,   [sp,   #5]
      LSLI     r1,   r1,    #2
      LDRR     r0,   [r0,   r1]
      STRSPI   r0,   [sp,   #7]
      LDRI     r0,   [r7,   #2]
      LDRSPI   r1,   [sp,   #6]
      LSLI     r1,   r1,    #2
      LDRR     r0,   [r0,   r1]
      STRSPI   r0,   [sp,   #8]
      LDRSPI   r0,   [sp,   #1]
      SUBI     r0,   #81
      BEQ      #1
      MOVI     r0,   #1
      SUBI     r0,   #1
      LDRSPI   r1,   [sp,   #1]
      SUBI     r1,   #80
      BEQ      #1
      MOVI     r1,   #1
      SUBI     r1,   #1
      ORR      r0,   r1
      BEQ      #1
      BU       L320
      LDRSPI   r0,   [sp,   #6]
      BL       L60
      STRSPI   r0,   [sp,   #9]
      LDRSPI   r0,   [sp,   #5]
      BL       L60
      LDRSPI   r1,   [sp,   #9]
      ANDR     r0,   r1
      BEQ      L325
      LDRSPI   r0,   [sp,   #0]
      BL       L63
      LDRSPI   r1,   [sp,   #0]
      ADDI     r1,   #1
      LDRI     r2,   [r7,   #2]
      LSLI     r1,   r1,    #2
      STRR     r0,   [r2,   r1]
      LDRSPI   r0,   [sp,   #0]
      MOVI     r1,   #2
      LDRI     r2,   [r7,   #2]
      LSLI     r0,   r0,    #2
      STRR     r1,   [r2,   r0]
      BU       L320
L325
      LDRSPI   r0,   [sp,   #1]
      SUBI     r0,   #74
      BNE      L326
      LDRSPI   r0,   [sp,   #8]
      SUBI     r0,   #32
```

```
        BEQ       #1
        MOVI      r0,    #1
        SUBI      r0,    #1
        LDRSPI    r1,    [sp,   #7]
        SUBI      r1,    #32
        BEQ       #1
        MOVI      r1,    #1
        SUBI      r1,    #1
        ANDR      r0,    r1
        BNE       #1
        BU        L320
        LDRSPI    r0,    [sp,   #0]
        ADDI      r0,    #1
        LDRI      r1,    [r7,   #2]
        LDRSPI    r2,    [sp,   #5]
        ADDI      r2,    #1
        LSLI      r2,    r2,    #2
        LDRR      r1,    [r1,   r2]
        LDRI      r2,    [r7,   #2]
        LSLI      r0,    r0,    #2
        STRR      r1,    [r2,   r0]
        LDRSPI    r0,    [sp,   #0]
        ADDI      r0,    #2
        LDRI      r1,    [r7,   #2]
        LDRSPI    r2,    [sp,   #6]
        ADDI      r2,    #1
        LSLI      r2,    r2,    #2
        LDRR      r1,    [r1,   r2]
        LDRI      r2,    [r7,   #2]
        LSLI      r0,    r0,    #2
        STRR      r1,    [r2,   r0]
        BU        L320
L326
        LDRSPI    r0,    [sp,   #1]
        SUBI      r0,    #75
        BNE       L327
        LDRSPI    r0,    [sp,   #0]
        MOVI      r1,    #74
        LDRI      r2,    [r7,   #2]
        LSLI      r0,    r0,    #2
        STRR      r1,    [r2,   r0]
        MOVI      r0,    #32
        LDRSPI    r1,    [sp,   #0]
        BL        L15
        STRSPI    r0,    [sp,   #3]
        LDRSPI    r0,    [sp,   #8]
        SUBI      r0,    #32
        BEQ       #1
        MOVI      r0,    #1
```

```
        SUBI     r0,    #1
        LDRSPI   r1,    [sp,    #7]
        SUBI     r1,    #32
        BEQ      #1
        MOVI     r1,    #1
        SUBI     r1,    #1
        ANDR     r0,    r1
        BNE      #1
        BU       L320
        LDRSPI   r0,    [sp,    #0]
        ADDI     r0,    #1
        LDRI     r1,    [r7,    #2]
        LDRSPI   r2,    [sp,    #5]
        ADDI     r2,    #1
        LSLI     r2,    r2,     #2
        LDRR     r1,    [r1,    r2]
        LDRI     r2,    [r7,    #2]
        LSLI     r0,    r0,     #2
        STRR     r1,    [r2,    r0]
        LDRSPI   r0,    [sp,    #0]
        ADDI     r0,    #2
        LDRI     r1,    [r7,    #2]
        LDRSPI   r2,    [sp,    #6]
        ADDI     r2,    #1
        LSLI     r2,    r2,     #2
        LDRR     r1,    [r1,    r2]
        LDRI     r2,    [r7,    #2]
        LSLI     r0,    r0,     #2
        STRR     r1,    [r2,    r0]
        BU       L320
L327
        LDRSPI   r0,    [sp,    #1]
        SUBI     r0,    #79
        BNE      L328
        LDRSPI   r0,    [sp,    #0]
        MOVI     r1,    #76
        LDRI     r2,    [r7,    #2]
        LSLI     r0,    r0,     #2
        STRR     r1,    [r2,    r0]
        MOVI     r0,    #32
        LDRSPI   r1,    [sp,    #0]
        BL       L15
        STRSPI   r0,    [sp,    #3]
        BU       L320
L328
        LDRSPI   r0,    [sp,    #1]
        SUBI     r0,    #78
        BNE      L329
        LDRI     r0,    [r7,    #2]
```

```
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #4]
    LDRSPI   r0,    [sp,   #0]
    ADDI     r0,    #1
    LDRI     r1,    [r7,   #2]
    LDRSPI   r2,    [sp,   #0]
    ADDI     r2,    #2
    LSLI     r2,    r2,    #2
    LDRR     r1,    [r1,   r2]
    LDRI     r2,    [r7,   #2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    LDRSPI   r0,    [sp,   #0]
    ADDI     r0,    #2
    LDRSPI   r1,    [sp,   #4]
    LDRI     r2,    [r7,   #2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    LDRSPI   r0,    [sp,   #0]
    MOVI     r1,    #76
    LDRI     r2,    [r7,   #2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    BU       L320
L329
    LDRSPI   r0,    [sp,   #1]
    SUBI     r0,    #77
    BNE      L330
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #4]
    LDRSPI   r0,    [sp,   #0]
    ADDI     r0,    #1
    LDRI     r1,    [r7,   #2]
    LDRSPI   r2,    [sp,   #0]
    ADDI     r2,    #2
    LSLI     r2,    r2,    #2
    LDRR     r1,    [r1,   r2]
    LDRI     r2,    [r7,   #2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    LDRSPI   r0,    [sp,   #0]
    ADDI     r0,    #2
```

```
        LDRSPI   r1,    [sp,   #4]
        LDRI     r2,    [r7,   #2]
        LSLI     r0,    r0,    #2
        STRR     r1,    [r2,   r0]
        LDRSPI   r0,    [sp,   #0]
        MOVI     r1,    #76
        LDRI     r2,    [r7,   #2]
        LSLI     r0,    r0,    #2
        STRR     r1,    [r2,   r0]
        MOVI     r0,    #32
        LDRSPI   r1,    [sp,   #0]
        BL       L15
        STRSPI   r0,    [sp,   #3]
        BU       L320
L330
        LDRSPI   r0,    [sp,   #1]
        SUBI     r0,    #70
        BEQ      #1
        MOVI     r0,    #1
        SUBI     r0,    #1
        LDRSPI   r1,    [sp,   #1]
        SUBI     r1,    #69
        BEQ      #1
        MOVI     r1,    #1
        SUBI     r1,    #1
        ORR      r0,    r1
        BEQ      L331
        LDRSPI   r0,    [sp,   #8]
        SUBI     r0,    #32
        BEQ      #1
        MOVI     r0,    #1
        SUBI     r0,    #1
        LDRSPI   r1,    [sp,   #7]
        SUBI     r1,    #32
        BEQ      #1
        MOVI     r1,    #1
        SUBI     r1,    #1
        ANDR     r0,    r1
        BNE      #1
        BU       L320
        MOVI     r0,    #32
        LDRSPI   r1,    [sp,   #0]
        BL       L15
        STRSPI   r0,    [sp,   #3]
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        SUBI     r0,    #70
```

```
        BNE       L333
        LDRSPI    r0,    [sp,   #0]
        MOVI      r1,    #69
        LDRI      r2,    [r7,   #2]
        LSLI      r0,    r0,    #2
        STRR      r1,    [r2,   r0]
        BU        L332
L333
        LDRSPI    r0,    [sp,   #0]
        MOVI      r1,    #70
        LDRI      r2,    [r7,   #2]
        LSLI      r0,    r0,    #2
        STRR      r1,    [r2,   r0]
L332
        LDRSPI    r0,    [sp,   #0]
        ADDI      r0,    #1
        LDRI      r1,    [r7,   #2]
        LDRSPI    r2,    [sp,   #5]
        ADDI      r2,    #1
        LSLI      r2,    r2,    #2
        LDRR      r1,    [r1,   r2]
        LDRI      r2,    [r7,   #2]
        LSLI      r0,    r0,    #2
        STRR      r1,    [r2,   r0]
        LDRSPI    r0,    [sp,   #0]
        ADDI      r0,    #2
        LDRI      r1,    [r7,   #2]
        LDRSPI    r2,    [sp,   #6]
        ADDI      r2,    #1
        LSLI      r2,    r2,    #2
        LDRR      r1,    [r1,   r2]
        LDRI      r2,    [r7,   #2]
        LSLI      r0,    r0,    #2
        STRR      r1,    [r2,   r0]
        BU        L320
L331
        LDRSPI    r0,    [sp,   #1]
        SUBI      r0,    #71
        BNE       L334
        LDRSPI    r0,    [sp,   #8]
        SUBI      r0,    #32
        BEQ       #1
        MOVI      r0,    #1
        SUBI      r0,    #1
        LDRSPI    r1,    [sp,   #7]
        SUBI      r1,    #32
        BEQ       #1
        MOVI      r1,    #1
        SUBI      r1,    #1
```

```
        ANDR     r0,    r1
        BNE      #1
        BU       L320
        LDRSPI   r0,    [sp,   #0]
        ADDI     r0,    #1
        LDRI     r1,    [r7,   #2]
        LDRSPI   r2,    [sp,   #5]
        ADDI     r2,    #1
        LSLI     r2,    r2,    #2
        LDRR     r1,    [r1,   r2]
        LDRI     r2,    [r7,   #2]
        LSLI     r0,    r0,    #2
        STRR     r1,    [r2,   r0]
        LDRSPI   r0,    [sp,   #0]
        ADDI     r0,    #2
        LDRI     r1,    [r7,   #2]
        LDRSPI   r2,    [sp,   #6]
        ADDI     r2,    #1
        LSLI     r2,    r2,    #2
        LDRR     r1,    [r1,   r2]
        LDRI     r2,    [r7,   #2]
        LSLI     r0,    r0,    #2
        STRR     r1,    [r2,   r0]
        BU       L320
L334
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #2
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        BL       L76
        STRSPI   r0,    [sp,   #9]
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #1
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        BL       L76
        LDRSPI   r1,    [sp,   #9]
        ORR      r0,    r1
        LDRSPI   r1,    [sp,   #1]
        SUBI     r1,    #71
        BEQ      #1
        MOVI     r1,    #1
        SUBI     r1,    #1
        LDRSPI   r2,    [sp,   #1]
        SUBI     r2,    #69
        BEQ      #1
        MOVI     r2,    #1
```

```
        SUBI      r2,    #1
        ORR       r1,    r2
        LDRSPI    r2,    [sp,   #1]
        SUBI      r2,    #64
        BEQ       #1
        MOVI      r2,    #1
        SUBI      r2,    #1
        ORR       r1,    r2
        ANDR      r0,    r1
        BEQ       L335
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #1
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        BL        L76
        BEQ       L336
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #2
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        STRSPI    r0,    [sp,   #3]
        BU        L320
L336
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #2
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        BL        L76
        BEQ       L320
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #1
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        STRSPI    r0,    [sp,   #3]
        BU        L320
L335
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #2
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        BL        L76
        LDRSPI    r1,    [sp,   #1]
        SUBI      r1,    #73
        BEQ       #1
```

```
        MOVI      r1,    #1
        SUBI      r1,    #1
        LDRSPI    r2,    [sp,   #1]
        SUBI      r2,    #72
        BEQ       #1
        MOVI      r2,    #1
        SUBI      r2,    #1
        ORR       r1,    r2
        LDRSPI    r2,    [sp,   #1]
        SUBI      r2,    #65
        BEQ       #1
        MOVI      r2,    #1
        SUBI      r2,    #1
        ORR       r1,    r2
        ANDR      r0,    r1
        BEQ       L320
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #1
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        STRSPI    r0,    [sp,   #3]
        BU        L320
L324
        LDRSPI    r0,    [sp,   #1]
        SUBI      r0,    #20
        BNE       L320
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #2
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        BL        L59
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #2
        LDRI      r2,    [r7,   #2]
        LSLI      r1,    r1,    #2
        STRR      r0,    [r2,   r1]
        LDRI      r0,    [r7,   #2]
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #1
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,   r1]
        BL        L59
        LDRSPI    r1,    [sp,   #0]
        ADDI      r1,    #1
        LDRI      r2,    [r7,   #2]
        LSLI      r1,    r1,    #2
        STRR      r0,    [r2,   r1]
```

```
L320
    LDRSPI   r0,    [sp,   #3]
    INCSP    #10
    POP
```

```
FUNC isval
L60
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,   #0]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #1]
    LDRSPI   r0,    [sp,   #1]
    SUBI     r0,    #2
    BEQ      #1
    MOVI     r0,    #1
    SUBI     r0,    #1
    LDRSPI   r1,    [sp,   #1]
    SUBI     r1,    #43
    BEQ      #1
    MOVI     r1,    #1
    SUBI     r1,    #1
    ORR      r0,    r1
    LDRSPI   r1,    [sp,   #1]
    SUBI     r1,    #42
    BEQ      #1
    MOVI     r1,    #1
    SUBI     r1,    #1
    ORR      r0,    r1
    INCSP    #2
    POP
```

```
FUNC getval
L61
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,   #0]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #1]
    LDRSPI   r0,    [sp,   #1]
    SUBI     r0,    #42
    BNE      L338
    MOVI     r0,    #1
    NEGR     r0,    r0
    BU       L337
L338
    LDRSPI   r0,    [sp,   #1]
    SUBI     r0,    #43
    BNE      L339
    MOVI     r0,    #0
    BU       L337
L339
    LDRSPI   r0,    [sp,   #1]
    SUBI     r0,    #2
    BNE      L340
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    BU       L337
L340
    MOVI     r0,    #0
L337
    INCSP    #2
    POP
```

```
FUNC evalmonadic
L62
    PUSH
    DECSP    #3
    STRSPI   r0,    [sp,   #0]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #1]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    BL       L61
    STRSPI   r0,    [sp,   #2]
    LDRSPI   r0,    [sp,   #1]
    SUBI     r0,    #34
    BNE      L342
    LDRSPI   r0,    [sp,   #2]
    NEGR     r0,    r0
    BU       L341
L342
    LDRSPI   r0,    [sp,   #1]
    SUBI     r0,    #32
    BNE      L343
    LDRSPI   r0,    [sp,   #2]
    MOVNR    r0,    r0
    BU       L341
L343
    ADDPCI   r0,    S204
    BL       L48
    MOVI     r0,    #0
L341
    INCSP    #3
    POP
```

```
FUNC evaldiadic
L63
    PUSH
    DECSP    #4
    STRSPI   r0,    [sp,    #0]
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    STRSPI   r0,    [sp,    #1]
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    BL       L61
    STRSPI   r0,    [sp,    #2]
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #2
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    BL       L61
    STRSPI   r0,    [sp,    #3]
    LDRSPI   r0,    [sp,    #1]
    SUBI     r0,    #64
    BNE      L345
    LDRSPI   r0,    [sp,    #3]
    LDRSPI   r1,    [sp,    #2]
    ADDR     r0,    r0,     r1
    BU       L344
L345
    LDRSPI   r0,    [sp,    #1]
    SUBI     r0,    #65
    BNE      L346
    LDRSPI   r0,    [sp,    #3]
    LDRSPI   r1,    [sp,    #2]
    SUBR     r0,    r1,     r0
    BU       L344
L346
    LDRSPI   r0,    [sp,    #1]
    SUBI     r0,    #66
    BNE      L347
    LDRSPI   r0,    [sp,    #3]
    LDRSPI   r1,    [sp,    #2]
    MULR     r0,    r1
    BU       L344
L347
```

```
        LDRSPI   r0,    [sp,   #1]
        SUBI     r0,    #74
        BNE      L348
        LDRSPI   r0,    [sp,   #3]
        LDRSPI   r1,    [sp,   #2]
        SUBR     r0,    r1,    r0
        BEQ      #1
        MOVI     r0,    #1
        SUBI     r0,    #1
        BU       L344
L348
        LDRSPI   r0,    [sp,   #1]
        SUBI     r0,    #75
        BNE      L349
        LDRSPI   r0,    [sp,   #3]
        LDRSPI   r1,    [sp,   #2]
        SUBR     r0,    r1,    r0
        BEQ      #1
        MOVI     r0,    #1
        NEGR     r0,    r0
        BU       L344
L349
        LDRSPI   r0,    [sp,   #1]
        SUBI     r0,    #76
        BNE      L350
        LDRSPI   r0,    [sp,   #3]
        LDRSPI   r1,    [sp,   #2]
        SUBR     r0,    r1,    r0
        ASRI     r0,    r0,    #31
        BU       L344
L350
        LDRSPI   r0,    [sp,   #1]
        SUBI     r0,    #78
        BNE      L351
        LDRSPI   r0,    [sp,   #2]
        LDRSPI   r1,    [sp,   #3]
        SUBR     r0,    r1,    r0
        ASRI     r0,    r0,    #31
        BU       L344
L351
        LDRSPI   r0,    [sp,   #1]
        SUBI     r0,    #77
        BNE      L352
        LDRSPI   r0,    [sp,   #2]
        LDRSPI   r1,    [sp,   #3]
        SUBR     r0,    r1,    r0
        ASRI     r0,    r0,    #31
        MOVNR    r0,    r0
        BU       L344
```

```
L352
    LDRSPI  r0,   [sp,  #1]
    SUBI    r0,   #79
    BNE     L353
    LDRSPI  r0,   [sp,  #3]
    LDRSPI  r1,   [sp,  #2]
    SUBR    r0,   r1,   r0
    ASRI    r0,   r0,   #31
    MOVNR   r0,   r0
    BU      L344
L353
    LDRSPI  r0,   [sp,  #1]
    SUBI    r0,   #69
    BNE     L354
    LDRSPI  r0,   [sp,  #3]
    LDRSPI  r1,   [sp,  #2]
    ORR     r0,   r1
    BU      L344
L354
    LDRSPI  r0,   [sp,  #1]
    SUBI    r0,   #70
    BNE     L355
    LDRSPI  r0,   [sp,  #3]
    LDRSPI  r1,   [sp,  #2]
    ANDR    r0,   r1
    BU      L344
L355
    LDRSPI  r0,   [sp,  #1]
    SUBI    r0,   #71
    BNE     L356
    LDRSPI  r0,   [sp,  #3]
    LDRSPI  r1,   [sp,  #2]
    EORR    r0,   r1
    BU      L344
L356
    LDRSPI  r0,   [sp,  #1]
    SUBI    r0,   #72
    BNE     L357
    LDRSPI  r0,   [sp,  #2]
    LDRSPI  r1,   [sp,  #3]
    LSLR    r0,   r1
    BU      L344
L357
    LDRSPI  r0,   [sp,  #1]
    SUBI    r0,   #73
    BNE     L358
    LDRSPI  r0,   [sp,  #2]
    LDRSPI  r1,   [sp,  #3]
    LSRR    r0,   r1
```

```
        BU        L344
L358
    ADDPCI  r0,    S208
    BL        L12
    MOVI      r0,   #0
L344
    INCSP     #4
    POP
```

```
PROC translate
L64
    PUSH
    DECSP    #4
    STRSPI   r0,    [sp,    #0]
    MOVI     r0,    #0
    STRI     r0,    [r7,    #20]
    MOVI     r0,    #0
    STRI     r0,    [r7,    #21]
    MOVI     r0,    #1
    MOVI     r1,    #144
    STRR     r0,    [r7,    r1]
    BL       L116
    MOVI     r0,    #0
    STRI     r0,    [r7,    #28]
    BL       L89
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,    r1]
    BL       L52
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,    r1]
    BL       L53
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #2
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,    r1]
    BL       L49
    LDRI     r0,    [r7,    #20]
    STRI     r0,    [r7,    #21]
    BL       L112
    STRSPI   r0,    [sp,    #3]
    LDRSPI   r0,    [sp,    #3]
    MOVI     r1,    #1
    NEGR     r1,    r1
    MOVI     r2,    #0
    MOVI     r3,    #0
    BL       L107
    MOVI     r0,    #223
    MOVI     r1,    #0
    BL       L102
    LDRSPI   r0,    [sp,    #3]
```

```
BL       L113
LDRI     r0,    [r7,   #2]
LDRSPI   r1,    [sp,   #0]
ADDI     r1,    #2
LSLI     r1,    r1,    #2
LDRR     r0,    [r0,   r1]
BL       L65
MOVI     r0,    #0
BL       L118
BL       L129
INCSP    #4
POP
```

```
PROC genprocs
L65
    PUSH
    DECSP    #4
    STRSPI   r0,    [sp,    #0]
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    SUBI     r0,    #19
    BNE      L360
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    BL       L65
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #2
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    BU       L65+2
L360
    LDRI     r0,    [r7,    #3]
    STRSPI   r0,    [sp,    #2]
    LDRI     r0,    [r7,    #21]
    STRI     r0,    [r7,    #20]
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    BL       L56
    STRSPI   r0,    [sp,    #3]
    LDRI     r0,    [r7,    #19]
    LDRSPI   r1,    [sp,    #3]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    MOVI     r1,    #128
    STRR     r0,    [r7,    r1]
    LDRI     r0,    [r7,    #18]
    LDRSPI   r1,    [sp,    #3]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    STRI     r0,    [r7,    #31]
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
```

```
ADDI     r1,   #3
LSLI     r1,   r1,   #2
LDRR     r0,   [r0,  r1]
STRSPI   r0,   [sp,  #1]
BL       L89
LDRI     r0,   [r7,  #2]
LDRSPI   r1,   [sp,  #0]
ADDI     r1,   #2
LSLI     r1,   r1,   #2
LDRR     r0,   [r0,  r1]
BL       L50
BL       L114
MOVI     r0,   #0
MOVI     r1,   #132
STRR     r0,   [r7,  r1]
LDRI     r0,   [r7,  #2]
LDRSPI   r1,   [sp,  #0]
ADDI     r1,   #2
LSLI     r1,   r1,   #2
LDRR     r0,   [r0,  r1]
BL       L51
LDRI     r0,   [r7,  #2]
LDRSPI   r1,   [sp,  #1]
ADDI     r1,   #1
LSLI     r1,   r1,   #2
LDRR     r0,   [r0,  r1]
BL       L54
BL       L90
LDRI     r0,   [r7,  #2]
LDRSPI   r1,   [sp,  #1]
ADDI     r1,   #2
LSLI     r1,   r1,   #2
LDRR     r0,   [r0,  r1]
BL       L58
LDRI     r0,   [r7,  #2]
LDRSPI   r1,   [sp,  #1]
ADDI     r1,   #2
LSLI     r1,   r1,   #2
LDRR     r0,   [r0,  r1]
MOVI     r1,   #1
NEGR     r1,   r1
MOVI     r2,   #0
MOVI     r3,   #1
NEGR     r3,   r3
BL       L67
BL       L115
LDRSPI   r0,   [sp,  #2]
STRI     r0,   [r7,  #3]
L359
```

```
    INCSP       #4
    POP
S204
    DCD         1836016398
    DCD         1701603696
    DCD         1919230066
    DCD         7499634
S208
    DCD         1953525518
    DCD         1936289129
    DCD         1919230053
    DCD         7499634
```

```
FUNC funtail
L66
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,   #0]
    LDRI     r0,    [r7,   #2]
    LDRI     r1,    [r7,   #31]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    SUBI     r0,    #25
    BEQ      #1
    MOVI     r0,    #1
    SUBI     r0,    #1
    LDRSPI   r1,    [sp,   #0]
    ANDR     r0,    r1
    INCSP    #1
    POP
```

PROC genstatement
L67
  PUSH
  DECSP   #10

STRSPI	r0,	[sp,	#0]
STRSPI	r1,	[sp,	#1]
STRSPI	r2,	[sp,	#2]
STRSPI	r3,	[sp,	#3]
LDRI	r0,	[r7,	#2]
LDRSPI	r1,	[sp,	#0]
LSLI	r1,	r1,	#2
LDRR	r0,	[r0,	r1]
STRSPI	r0,	[sp,	#4]
LDRSPI	r0,	[sp,	#4]
SUBI	r0,	#19	
BNE	L362		
LDRI	r0,	[r7,	#2]
LDRSPI	r1,	[sp,	#0]
ADDI	r1,	#1	
LSLI	r1,	r1,	#2
LDRR	r0,	[r0,	r1]
MOVI	r1,	#1	
NEGR	r1,	r1	
MOVI	r2,	#0	
MOVI	r3,	#0	
BL	L67		
LDRI	r0,	[r7,	#2]
LDRSPI	r1,	[sp,	#0]
ADDI	r1,	#2	
LSLI	r1,	r1,	#2
LDRR	r0,	[r0,	r1]
LDRSPI	r1,	[sp,	#1]
LDRSPI	r2,	[sp,	#2]
LDRSPI	r3,	[sp,	#3]
BU	L67+2		

L362

LDRSPI	r0,	[sp,	#2]
SUBI	r0,	#0	
BEQ	#1		
MOVI	r0,	#1	
SUBI	r0,	#1	
LDRSPI	r1,	[sp,	#4]
SUBI	r1,	#10	
BEQ	#1		
MOVI	r1,	#1	
SUBI	r1,	#1	
ANDR	r0,	r1	
BEQ	L363		

126

```
         BL       L112
         STRSPI   r0,    [sp,   #6]
         LDRSPI   r0,    [sp,   #0]
         MOVI     r1,    #1
         NEGR     r1,    r1
         LDRSPI   r2,    [sp,   #6]
         LDRSPI   r3,    [sp,   #3]
         BL       L67
         LDRSPI   r0,    [sp,   #6]
         BL       L113
         BU       L361
L363
         LDRSPI   r0,    [sp,   #4]
         SUBI     r0,    #10
         BNE      L364
         LDRI     r0,    [r7,   #2]
         LDRSPI   r1,    [sp,   #0]
         ADDI     r1,    #2
         LSLI     r1,    r1,    #2
         LDRR     r0,    [r0,   r1]
         STRSPI   r0,    [sp,   #7]
         LDRI     r0,    [r7,   #2]
         LDRSPI   r1,    [sp,   #0]
         ADDI     r1,    #3
         LSLI     r1,    r1,    #2
         LDRR     r0,    [r0,   r1]
         STRSPI   r0,    [sp,   #8]
         LDRSPI   r0,    [sp,   #3]
         BL       L66
         MOVNR    r0,    r0
         LDRI     r1,    [r7,   #2]
         LDRSPI   r2,    [sp,   #8]
         LSLI     r2,    r2,    #2
         LDRR     r1,    [r1,   r2]
         SUBI     r1,    #16
         BEQ      #1
         MOVI     r1,    #1
         SUBI     r1,    #1
         LDRI     r2,    [r7,   #2]
         LDRSPI   r3,    [sp,   #7]
         LSLI     r3,    r3,    #2
         LDRR     r2,    [r2,   r3]
         SUBI     r2,    #16
         BEQ      #1
         MOVI     r2,    #1
         SUBI     r2,    #1
         ORR      r1,    r2
         ANDR     r0,    r1
         BEQ      L365
```

```
        LDRI      r0,   [r7,   #2]
        LDRSPI    r1,   [sp,   #0]
        ADDI      r1,   #1
        LSLI      r1,   r1,    #2
        LDRR      r0,   [r0,   r1]
        LDRI      r1,   [r7,   #2]
        LDRSPI    r2,   [sp,   #7]
        LSLI      r2,   r2,    #2
        LDRR      r1,   [r1,   r2]
        SUBI      r1,   #16
        BEQ       #1
        MOVI      r1,   #1
        SUBI      r1,   #1
        LDRSPI    r2,   [sp,   #2]
        BL        L68
        LDRI      r0,   [r7,   #2]
        LDRSPI    r1,   [sp,   #7]
        LSLI      r1,   r1,    #2
        LDRR      r0,   [r0,   r1]
        SUBI      r0,   #16
        BNE       L366
        LDRSPI    r0,   [sp,   #8]
        LDRSPI    r1,   [sp,   #1]
        LDRSPI    r2,   [sp,   #2]
        LDRSPI    r3,   [sp,   #3]
        BU        L67+2
L366
        LDRSPI    r0,   [sp,   #7]
        LDRSPI    r1,   [sp,   #1]
        LDRSPI    r2,   [sp,   #2]
        LDRSPI    r3,   [sp,   #3]
        BU        L67+2
L365
        BL        L112
        STRSPI    r0,   [sp,   #9]
        LDRI      r0,   [r7,   #2]
        LDRSPI    r1,   [sp,   #0]
        ADDI      r1,   #1
        LSLI      r1,   r1,    #2
        LDRR      r0,   [r0,   r1]
        MOVI      r1,   #0
        LDRSPI    r2,   [sp,   #9]
        BL        L68
        LDRSPI    r0,   [sp,   #7]
        MOVI      r1,   #0
        LDRSPI    r2,   [sp,   #2]
        LDRSPI    r3,   [sp,   #3]
        BL        L67
        LDRSPI    r0,   [sp,   #9]
```

```
        BL       L113
        LDRSPI   r0,    [sp,   #8]
        LDRSPI   r1,    [sp,   #1]
        LDRSPI   r2,    [sp,   #2]
        LDRSPI   r3,    [sp,   #3]
        BU       L67+2
L364
        LDRSPI   r0,    [sp,   #3]
        BL       L66
        BEQ      L367
        LDRSPI   r0,    [sp,   #4]
        SUBI     r0,    #44
        BNE      L368
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #1
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        STRSPI   r0,    [sp,   #5]
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #5]
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        SUBI     r0,    #8
        BNE      L369
        LDRSPI   r0,    [sp,   #5]
        LDRSPI   r1,    [sp,   #1]
        LDRSPI   r2,    [sp,   #2]
        LDRSPI   r3,    [sp,   #3]
        BL       L69
        BU       L361
L369
        MOVI     r0,    #0
        LDRI     r1,    [r7,   #2]
        LDRSPI   r2,    [sp,   #0]
        ADDI     r2,    #1
        LSLI     r2,    r2,    #2
        LDRR     r1,    [r1,   r2]
        BL       L85
        LDRSPI   r0,    [sp,   #1]
        LDRSPI   r1,    [sp,   #2]
        BL       L106
        BU       L361
L368
        ADDPCI   r0,    S212
        BL       L48
        BU       L361
L367
        LDRSPI   r0,    [sp,   #2]
```

```
        SUBI     r0,    #0
        BEQ      #1
        MOVI     r0,    #1
        SUBI     r0,    #1
        LDRSPI   r1,    [sp,   #4]
        SUBI     r1,    #13
        BEQ      #1
        MOVI     r1,    #1
        SUBI     r1,    #1
        ANDR     r0,    r1
        BEQ      L370
        BL       L112
        STRSPI   r0,    [sp,   #6]
        LDRSPI   r0,    [sp,   #0]
        MOVI     r1,    #0
        LDRSPI   r2,    [sp,   #6]
        MOVI     r3,    #0
        BL       L67
        LDRSPI   r0,    [sp,   #6]
        BL       L113
        BU       L361
L370
        LDRSPI   r0,    [sp,   #4]
        SUBI     r0,    #13
        BNE      L371
        BL       L112
        STRSPI   r0,    [sp,   #6]
        LDRSPI   r0,    [sp,   #6]
        BL       L113
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #1
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        MOVI     r1,    #0
        LDRSPI   r2,    [sp,   #2]
        BL       L68
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #2
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        MOVI     r1,    #0
        LDRSPI   r2,    [sp,   #6]
        MOVI     r3,    #0
        BU       L67+2
L371
        LDRSPI   r0,    [sp,   #4]
        SUBI     r0,    #9
```

```
        BNE      L372
        LDRSPI   r0,    [sp,   #0]
        LDRSPI   r1,    [sp,   #1]
        LDRSPI   r2,    [sp,   #2]
        LDRSPI   r3,    [sp,   #3]
        BL       L69
        BU       L361
L372
        LDRSPI   r0,    [sp,   #4]
        SUBI     r0,    #27
        BNE      L373
        MOVI     r0,    #223
        MOVI     r1,    #0
        BL       L102
        BU       L361
L373
        LDRSPI   r0,    [sp,   #4]
        SUBI     r0,    #16
        BEQ      L374
        LDRSPI   r0,    [sp,   #4]
        SUBI     r0,    #15
        BNE      L375
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #1
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        LDRI     r1,    [r7,   #2]
        LDRSPI   r2,    [sp,   #0]
        ADDI     r2,    #2
        LSLI     r2,    r2,    #2
        LDRR     r1,    [r1,   r2]
        BL       L82
        BU       L374
L375
        LDRSPI   r0,    [sp,   #4]
        SUBI     r0,    #44
        BNE      L374
        ADDPCI   r0,    S217
        BL       L48
L374
        LDRSPI   r0,    [sp,   #1]
        LDRSPI   r1,    [sp,   #2]
        BL       L106
L361
        INCSP    #10
        POP
```

```
PROC gencondjump
L68
    PUSH
    DECSP    #6
    STRSPI   r0,    [sp,    #0]
    STRSPI   r1,    [sp,    #1]
    STRSPI   r2,    [sp,    #2]
    LDRSPI   r0,    [sp,    #0]
    STRSPI   r0,    [sp,    #5]
    LDRSPI   r0,    [sp,    #1]
    STRSPI   r0,    [sp,    #3]
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    STRSPI   r0,    [sp,    #4]
    LDRSPI   r0,    [sp,    #4]
    SUBI     r0,    #32
    BNE      L376
    LDRSPI   r0,    [sp,    #3]
    MOVNR    r0,    r0
    STRSPI   r0,    [sp,    #3]
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    STRSPI   r0,    [sp,    #5]
L376
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #5]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    SUBI     r0,    #76
    BNE      L378
    MOVI     r0,    #65
    MOVI     r1,    #0
    LDRI     r2,    [r7,    #2]
    LDRSPI   r3,    [sp,    #5]
    ADDI     r3,    #1
    LSLI     r3,    r3,     #2
    LDRR     r2,    [r2,    r3]
    LDRI     r3,    [r7,    #2]
    LDRSPI   r4,    [sp,    #5]
    ADDI     r4,    #2
    LSLI     r4,    r4,     #2
    LDRR     r3,    [r3,    r4]
    BL       L86
```

```
        LDRSPI    r0,    [sp,    #3]
        ADDI      r0,    #0
        BEQ       L379
        MOVI      r0,    #221
        LDRSPI    r1,    [sp,    #2]
        BL        L105
        BU        L377
L379
        MOVI      r0,    #218
        LDRSPI    r1,    [sp,    #2]
        BL        L105
        BU        L377
L378
        LDRI      r0,    [r7,    #2]
        LDRSPI    r1,    [sp,    #5]
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,    r1]
        SUBI      r0,    #74
        BNE       L381
        LDRI      r0,    [r7,    #2]
        LDRSPI    r1,    [sp,    #5]
        ADDI      r1,    #1
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,    r1]
        BL        L76
        BEQ       L383
        MOVI      r0,    #0
        LDRI      r1,    [r7,    #2]
        LDRSPI    r2,    [sp,    #5]
        ADDI      r2,    #2
        LSLI      r2,    r2,    #2
        LDRR      r1,    [r1,    r2]
        BL        L84
        BU        L382
L383
        LDRI      r0,    [r7,    #2]
        LDRSPI    r1,    [sp,    #5]
        ADDI      r1,    #2
        LSLI      r1,    r1,    #2
        LDRR      r0,    [r0,    r1]
        BL        L76
        BEQ       L384
        MOVI      r0,    #0
        LDRI      r1,    [r7,    #2]
        LDRSPI    r2,    [sp,    #5]
        ADDI      r2,    #1
        LSLI      r2,    r2,    #2
        LDRR      r1,    [r1,    r2]
        BL        L84
```

```
        BU          L382
L384
        MOVI        r0,     #65
        MOVI        r1,     #0
        LDRI        r2,     [r7,    #2]
        LDRSPI      r3,     [sp,    #5]
        ADDI        r3,     #1
        LSLI        r3,     r3,     #2
        LDRR        r2,     [r2,    r3]
        LDRI        r3,     [r7,    #2]
        LDRSPI      r4,     [sp,    #5]
        ADDI        r4,     #2
        LSLI        r4,     r4,     #2
        LDRR        r3,     [r3,    r4]
        BL          L86
L382
        LDRSPI      r0,     [sp,    #3]
        MOVNR       r0,     r0
        STRSPI      r0,     [sp,    #3]
        BU          L380
L381
        MOVI        r0,     #0
        LDRSPI      r1,     [sp,    #5]
        BL          L84
L380
        LDRSPI      r0,     [sp,    #3]
        ADDI        r0,     #0
        BEQ         L385
        MOVI        r0,     #209
        LDRSPI      r1,     [sp,    #2]
        BL          L105
        BU          L377
L385
        MOVI        r0,     #208
        LDRSPI      r1,     [sp,    #2]
        BL          L105
L377
        INCSP       #6
        POP
```

```
PROC tcall
L69
    PUSH
    DECSP    #8
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    STRSPI   r2,    [sp,   #2]
    STRSPI   r3,    [sp,   #3]
    MOVI     r0,    #132
    LDRR     r0,    [r7,   r0]
    STRSPI   r0,    [sp,   #4]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #2
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    BL       L70
    BL       L90
    LDRSPI   r0,    [sp,   #4]
    MOVI     r1,    #132
    STRR     r0,    [r7,   r1]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #2
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    BL       L72
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    BL       L60
    BEQ      L387
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    BL       L61
    STRSPI   r0,    [sp,   #7]
    MOVI     r0,    #223
    LDRSPI   r1,    [sp,   #7]
    BL       L102
    BU       L386
L387
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
```

```
        ADDI    r1,   #1
        LSLI    r1,   r1,   #2
        LDRR    r0,   [r0,   r1]
        BL      L56
        STRSPI  r0,   [sp,   #5]
        LDRI    r0,   [r7,   #18]
        LDRSPI  r1,   [sp,   #5]
        LSLI    r1,   r1,   #2
        LDRR    r0,   [r0,   r1]
        STRSPI  r0,   [sp,   #6]
        LDRSPI  r0,   [sp,   #5]
        BL      L57
        BEQ     L388
        MOVI    r0,   #19
        MOVI    r1,   #6
        LDRI    r2,   [r7,   #19]
        LDRSPI  r3,   [sp,   #5]
        LSLI    r3,   r3,   #2
        LDRR    r2,   [r2,   r3]
        BL      L100
        MOVI    r0,   #143
        MOVI    r1,   #6
        BL      L103
        BU      L386
L388
        LDRI    r0,   [r7,   #2]
        LDRSPI  r1,   [sp,   #6]
        ADDI    r1,   #2
        LSLI    r1,   r1,   #2
        LDRR    r0,   [r0,   r1]
        LDRI    r1,   [r7,   #2]
        LDRSPI  r2,   [sp,   #0]
        ADDI    r2,   #2
        LSLI    r2,   r2,   #2
        LDRR    r1,   [r1,   r2]
        BL      L74
        LDRI    r0,   [r7,   #19]
        LDRSPI  r1,   [sp,   #5]
        LSLI    r1,   r1,   #2
        LDRR    r0,   [r0,   r1]
        LDRSPI  r1,   [sp,   #1]
        LDRSPI  r2,   [sp,   #2]
        LDRSPI  r3,   [sp,   #3]
        BL      L107
L386
        LDRSPI  r0,   [sp,   #4]
        MOVI    r1,   #132
        STRR    r0,   [r7,   r1]
        INCSP   #8
```

```
    POP
    ADDI      r0,    #0
S212
    DCD       1701978641
    DCD       1852994932
    DCD       2019893282
    DCD       1952671088
    DCD       25701
S217
    DCD       1936289042
    DCD       1667329136
    DCD       572548197
    DCD       1970562418
    DCD       2256498
```

```
PROC prepareaps
L70
    PUSH
    DECSP    #3
    STRSPI   r0,    [sp,    #0]
    LDRSPI   r0,    [sp,    #0]
    STRSPI   r0,    [sp,    #1]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,    #2]
L390
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #1]
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    SUBI     r0,    #20
    BNE      L389
    LDRSPI   r0,    [sp,    #2]
    LDRI     r1,    [r7,    #2]
    LDRSPI   r2,    [sp,    #1]
    ADDI     r2,    #1
    LSLI     r2,    r2,     #2
    LDRR     r1,    [r1,    r2]
    BL       L71
    LDRI     r0,    [r7,    #2]
    LDRSPI   r1,    [sp,    #1]
    ADDI     r1,    #2
    LSLI     r1,    r1,     #2
    LDRR     r0,    [r0,    r1]
    STRSPI   r0,    [sp,    #1]
    LDRSPI   r0,    [sp,    #2]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,    #2]
    BU       L390
L389
    LDRSPI   r0,    [sp,    #2]
    LDRSPI   r1,    [sp,    #1]
    BL       L71
    INCSP    #3
    POP
```

```
PROC prepareap
L71
    PUSH
    DECSP   #5
    STRSPI  r0,   [sp,   #0]
    STRSPI  r1,   [sp,   #1]
    LDRI    r0,   [r7,   #2]
    LDRSPI  r1,   [sp,   #1]
    LSLI    r1,   r1,    #2
    LDRR    r0,   [r0,   r1]
    STRSPI  r0,   [sp,   #2]
    LDRSPI  r0,   [sp,   #2]
    ADDI    r0,   #0
    BEQ     L391
    LDRSPI  r0,   [sp,   #1]
    BL      L79
    LDRSPI  r1,   [sp,   #0]
    MOVI    r2,   #7
    SUBR    r1,   r2,    r1
    SUBR    r0,   r1,    r0
    ASRI    r0,   r0,    #31
    STRSPI  r0,   [sp,   #4]
    LDRSPI  r0,   [sp,   #1]
    BL      L80
    LDRSPI  r1,   [sp,   #4]
    ORR     r0,   r1
    LDRSPI  r1,   [sp,   #0]
    MOVI    r2,   #0
    SUBR    r1,   r2,    r1
    ASRI    r1,   r1,    #31
    ANDR    r0,   r1
    BEQ     L391
    MOVI    r0,   #0
    LDRSPI  r1,   [sp,   #1]
    BL      L85
    MOVI    r0,   #18
    MOVI    r1,   #0
    MOVI    r2,   #132
    LDRR    r2,   [r7,   r2]
    BL      L100
    MOVI    r0,   #132
    LDRR    r0,   [r7,   r0]
    ADDI    r0,   #1
    MOVI    r1,   #132
    STRR    r0,   [r7,   r1]
L391
    INCSP   #5
    POP
```

```
PROC loadaps
L72
   PUSH
   DECSP    #3
   STRSPI   r0,   [sp,   #0]
   LDRSPI   r0,   [sp,   #0]
   STRSPI   r0,   [sp,   #1]
   MOVI     r0,   #0
   STRSPI   r0,   [sp,   #2]
L393
   LDRI     r0,   [r7,   #2]
   LDRSPI   r1,   [sp,   #1]
   LSLI     r1,   r1,   #2
   LDRR     r0,   [r0,   r1]
   SUBI     r0,   #20
   BNE      L392
   LDRSPI   r0,   [sp,   #2]
   LDRI     r1,   [r7,   #2]
   LDRSPI   r2,   [sp,   #1]
   ADDI     r2,   #1
   LSLI     r2,   r2,   #2
   LDRR     r1,   [r1,   r2]
   BL       L73
   LDRI     r0,   [r7,   #2]
   LDRSPI   r1,   [sp,   #1]
   ADDI     r1,   #2
   LSLI     r1,   r1,   #2
   LDRR     r0,   [r0,   r1]
   STRSPI   r0,   [sp,   #1]
   LDRSPI   r0,   [sp,   #2]
   ADDI     r0,   #1
   STRSPI   r0,   [sp,   #2]
   BU       L393
L392
   LDRSPI   r0,   [sp,   #2]
   LDRSPI   r1,   [sp,   #1]
   BL       L73
   INCSP    #3
   POP
```

```
PROC loadap
L73
    PUSH
    DECSP    #6
    STRSPI   r0,   [sp,   #0]
    STRSPI   r1,   [sp,   #1]
    LDRI     r0,   [r7,   #2]
    LDRSPI   r1,   [sp,   #1]
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    STRSPI   r0,   [sp,   #2]
    LDRSPI   r0,   [sp,   #2]
    ADDI     r0,   #0
    BEQ      L394
    LDRSPI   r0,   [sp,   #2]
    SUBI     r0,   #1
    BNE      L395
    LDRSPI   r0,   [sp,   #1]
    BL       L56
    STRSPI   r0,   [sp,   #3]
    LDRI     r0,   [r7,   #2]
    LDRI     r1,   [r7,   #18]
    LDRSPI   r2,   [sp,   #3]
    LSLI     r2,   r2,    #2
    LDRR     r1,   [r1,   r2]
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    STRSPI   r0,   [sp,   #4]
    LDRSPI   r0,   [sp,   #4]
    SUBI     r0,   #35
    BNE      L396
    LDRSPI   r0,   [sp,   #0]
    LDRI     r1,   [r7,   #19]
    LDRSPI   r2,   [sp,   #3]
    LSLI     r2,   r2,    #2
    LDRR     r1,   [r1,   r2]
    BL       L91
    BU       L394
L396
    LDRSPI   r0,   [sp,   #4]
    SUBI     r0,   #24
    BNE      L397
    LDRSPI   r0,   [sp,   #0]
    LDRSPI   r1,   [sp,   #3]
    BL       L92
    BU       L394
L397
    LDRSPI   r0,   [sp,   #0]
```

```
        LDRSPI   r1,   [sp,   #3]
        BL       L93
        BU       L394
L395
        LDRSPI   r0,   [sp,   #1]
        BL       L79
        LDRSPI   r1,   [sp,   #0]
        MOVI     r2,   #7
        SUBR     r1,   r2,   r1
        SUBR     r0,   r1,   r0
        ASRI     r0,   r0,   #31
        STRSPI   r0,   [sp,   #5]
        LDRSPI   r0,   [sp,   #1]
        BL       L80
        LDRSPI   r1,   [sp,   #5]
        ORR      r0,   r1
        LDRSPI   r1,   [sp,   #0]
        MOVI     r2,   #0
        SUBR     r1,   r2,   r1
        ASRI     r1,   r1,   #31
        ANDR     r0,   r1
        BEQ      L398
        MOVI     r0,   #19
        LDRSPI   r1,   [sp,   #0]
        MOVI     r2,   #132
        LDRR     r2,   [r7,   r2]
        BL       L100
        MOVI     r0,   #132
        LDRR     r0,   [r7,   r0]
        ADDI     r0,   #1
        MOVI     r1,   #132
        STRR     r0,   [r7,   r1]
        BU       L394
L398
        LDRSPI   r0,   [sp,   #0]
        LDRSPI   r1,   [sp,   #1]
        BL       L85
L394
        INCSP    #6
        POP
```

```
PROC checkps
L74
   PUSH
   DECSP    #4
   STRSPI   r0,    [sp,   #0]
   STRSPI   r1,    [sp,   #1]
L400
   LDRI     r0,    [r7,   #2]
   LDRSPI   r1,    [sp,   #3]
   LSLI     r1,    r1,    #2
   LDRR     r0,    [r0,   r1]
   SUBI     r0,    #20
   BNE      L399
   LDRI     r0,    [r7,   #2]
   LDRSPI   r1,    [sp,   #2]
   LSLI     r1,    r1,    #2
   LDRR     r0,    [r0,   r1]
   SUBI     r0,    #20
   BNE      L401
   LDRI     r0,    [r7,   #2]
   LDRSPI   r1,    [sp,   #2]
   ADDI     r1,    #1
   LSLI     r1,    r1,    #2
   LDRR     r0,    [r0,   r1]
   LDRI     r1,    [r7,   #2]
   LDRSPI   r2,    [sp,   #3]
   ADDI     r2,    #1
   LSLI     r2,    r2,    #2
   LDRR     r1,    [r1,   r2]
   BL       L75
   LDRI     r0,    [r7,   #2]
   LDRSPI   r1,    [sp,   #3]
   ADDI     r1,    #2
   LSLI     r1,    r1,    #2
   LDRR     r0,    [r0,   r1]
   STRSPI   r0,    [sp,   #3]
   LDRI     r0,    [r7,   #2]
   LDRSPI   r1,    [sp,   #2]
   ADDI     r1,    #2
   LSLI     r1,    r1,    #2
   LDRR     r0,    [r0,   r1]
   STRSPI   r0,    [sp,   #2]
   BU       L400
L401
   ADDPCI   r0,    S222
   BL       L12
   BU       L400
L399
```

```
LDRSPI   r0,    [sp,   #2]
LDRSPI   r1,    [sp,   #3]
BL       L75
INCSP    #4
POP
```

```
PROC checkp
L75
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #1]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    ADDI     r0,    #0
    BEQ      L402
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #1]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    SUBI     r0,    #35
    BEQ      L402
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #1]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    SUBI     r0,    #22
    BEQ      L402
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #1]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    SUBI     r0,    #24
    BEQ      L402
L402
    INCSP    #2
    POP
```

```
FUNC iszero
L76
   PUSH
   DECSP    #2
   STRSPI   r0,    [sp,   #0]
   LDRSPI   r0,    [sp,   #0]
   BL       L61
   SUBI     r0,    #0
   BEQ      #1
   MOVI     r0,    #1
   SUBI     r0,    #1
   STRSPI   r0,    [sp,   #1]
   LDRSPI   r0,    [sp,   #0]
   BL       L60
   LDRSPI   r1,    [sp,   #1]
   ANDR     r0,    r1
   INCSP    #2
   POP
```

```
FUNC immop5
L77
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,    #0]
    LDRSPI   r0,    [sp,    #0]
    BL       L61
    STRSPI   r0,    [sp,    #1]
    LDRSPI   r0,    [sp,    #0]
    BL       L60
    LDRSPI   r1,    [sp,    #1]
    SUBI     r1,    #32
    ASRI     r1,    r1,     #31
    LDRSPI   r2,    [sp,    #1]
    SUBI     r2,    #0
    ASRI     r2,    r2,     #31
    MOVNR    r2,    r2
    ANDR     r1,    r2
    ANDR     r0,    r1
    INCSP    #2
    POP
```

```
FUNC immop8
L78
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,    #0]
    LDRSPI   r0,    [sp,    #0]
    BL       L61
    STRSPI   r0,    [sp,    #1]
    LDRSPI   r0,    [sp,    #0]
    BL       L60
    MOVI     r1,    #1
    LSLI     r1,    r1,     #8
    LDRSPI   r2,    [sp,    #1]
    SUBR     r1,    r2,     r1
    ASRI     r1,    r1,     #31
    LDRSPI   r2,    [sp,    #1]
    SUBI     r2,    #0
    ASRI     r2,    r2,     #31
    MOVNR    r2,    r2
    ANDR     r1,    r2
    ANDR     r0,    r1
    INCSP    #2
    POP
```

```
FUNC regsfor
L79
    PUSH
    DECSP    #4
    STRSPI   r0,    [sp,   #0]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #1]
    LDRSPI   r0,    [sp,   #1]
    BL       L95
    BEQ      L404
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    BU       L79+2
L404
    LDRSPI   r0,    [sp,   #1]
    BL       L96
    BEQ      L405
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #1
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    BL       L79
    STRSPI   r0,    [sp,   #2]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #0]
    ADDI     r1,    #2
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    BL       L79
    STRSPI   r0,    [sp,   #3]
    LDRSPI   r0,    [sp,   #3]
    LDRSPI   r1,    [sp,   #2]
    SUBR     r0,    r1,    r0
    BNE      L406
    LDRSPI   r0,    [sp,   #2]
    ADDI     r0,    #1
    BU       L403
L406
    LDRSPI   r0,    [sp,   #2]
    LDRSPI   r1,    [sp,   #3]
    SUBR     r0,    r1,    r0
```

```
        BGE       L407
        LDRSPI    r0,   [sp,   #2]
        BU        L403
L407
        LDRSPI    r0,   [sp,   #3]
        BU        L403
L405
        MOVI      r0,   #1
L403
        INCSP     #4
        POP
```

```
FUNC containscall
L80
    PUSH
    DECSP    #3
    STRSPI   r0,   [sp,   #0]
    LDRI     r0,   [r7,   #2]
    LDRSPI   r1,   [sp,   #0]
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    STRSPI   r0,   [sp,   #1]
    LDRSPI   r0,   [sp,   #1]
    BL       L95
    BEQ      L409
    LDRI     r0,   [r7,   #2]
    LDRSPI   r1,   [sp,   #0]
    ADDI     r1,   #1
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    BU       L80+2
L409
    LDRSPI   r0,   [sp,   #1]
    BL       L96
    LDRSPI   r1,   [sp,   #1]
    SUBI     r1,   #20
    BEQ      #1
    MOVI     r1,   #1
    SUBI     r1,   #1
    ORR      r0,   r1
    BEQ      L410
    LDRI     r0,   [r7,   #2]
    LDRSPI   r1,   [sp,   #0]
    ADDI     r1,   #2
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    BL       L80
    STRSPI   r0,   [sp,   #2]
    LDRI     r0,   [r7,   #2]
    LDRSPI   r1,   [sp,   #0]
    ADDI     r1,   #1
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    BL       L80
    LDRSPI   r1,   [sp,   #2]
    ORR      r0,   r1
    BU       L408
L410
    LDRSPI   r0,   [sp,   #1]
    SUBI     r0,   #8
```

```
        BNE       L411
        MOVI      r0,    #1
        NEGR      r0,    r0
        BU        L408
L411
        MOVI      r0,    #0
L408
        INCSP     #3
        POP
```

```
PROC loadbase
L81
    PUSH
    DECSP     #5
    STRSPI    r0,    [sp,    #0]
    STRSPI    r1,    [sp,    #1]
    LDRSPI    r0,    [sp,    #1]
    BL        L60
    BEQ       L413
    LDRSPI    r0,    [sp,    #1]
    BL        L61
    STRSPI    r0,    [sp,    #4]
    LDRSPI    r0,    [sp,    #0]
    LDRSPI    r1,    [sp,    #4]
    BL        L91
    BU        L412
L413
    LDRSPI    r0,    [sp,    #1]
    BL        L56
    STRSPI    r0,    [sp,    #2]
    LDRI      r0,    [r7,    #18]
    LDRSPI    r1,    [sp,    #2]
    LSLI      r1,    r1,     #2
    LDRR      r0,    [r0,    r1]
    STRSPI    r0,    [sp,    #3]
    LDRI      r0,    [r7,    #2]
    LDRSPI    r1,    [sp,    #3]
    LSLI      r1,    r1,     #2
    LDRR      r0,    [r0,    r1]
    SUBI      r0,    #22
    BNE       L414
    LDRSPI    r0,    [sp,    #0]
    LDRSPI    r1,    [sp,    #2]
    BL        L93
    BU        L412
L414
    ADDPCI    r0,    S227
    LDRI      r1,    [r7,    #2]
    LDRSPI    r2,    [sp,    #3]
    ADDI      r2,    #1
    LSLI      r2,    r2,     #2
    LDRR      r1,    [r1,    r2]
    BL        L47
L412
    INCSP     #5
    POP
```

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```
PROC genassign
L82
    PUSH
    DECSP    #9
    STRSPI   r0,   [sp,   #0]
    STRSPI   r1,   [sp,   #1]
    LDRI     r0,   [r7,   #2]
    LDRSPI   r1,   [sp,   #0]
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    STRSPI   r0,   [sp,   #3]
    LDRSPI   r0,   [sp,   #3]
    SUBI     r0,   #1
    BNE      L416
    LDRSPI   r0,   [sp,   #0]
    BL       L56
    STRSPI   r0,   [sp,   #4]
    MOVI     r0,   #0
    LDRSPI   r1,   [sp,   #1]
    BL       L85
    MOVI     r0,   #0
    LDRSPI   r1,   [sp,   #4]
    BL       L94
    BU       L415
L416
    LDRI     r0,   [r7,   #2]
    LDRSPI   r1,   [sp,   #0]
    ADDI     r1,   #1
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    STRSPI   r0,   [sp,   #5]
    LDRI     r0,   [r7,   #2]
    LDRSPI   r1,   [sp,   #0]
    ADDI     r1,   #2
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    STRSPI   r0,   [sp,   #6]
    LDRSPI   r0,   [sp,   #6]
    BL       L60
    BEQ      L417
    LDRSPI   r0,   [sp,   #6]
    BL       L61
    STRSPI   r0,   [sp,   #7]
    LDRSPI   r0,   [sp,   #7]
    SUBI     r0,   #32
    BGE      L418
    MOVI     r0,   #0
    LDRSPI   r1,   [sp,   #1]
```

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```
        BL        L85
        MOVI      r0,    #1
        LDRSPI    r1,    [sp,   #5]
        BL        L81
        MOVI      r0,    #12
        MOVI      r1,    #0
        MOVI      r2,    #1
        LDRSPI    r3,    [sp,   #7]
        BL        L97
        BU        L415
L418
        MOVI      r0,    #0
        LDRSPI    r1,    [sp,   #1]
        BL        L85
        MOVI      r0,    #1
        LDRSPI    r1,    [sp,   #0]
        BL        L85
        MOVI      r0,    #12
        MOVI      r1,    #0
        MOVI      r2,    #1
        MOVI      r3,    #0
        BL        L97
        BU        L415
L417
        LDRSPI    r0,    [sp,   #1]
        BL        L80
        BEQ       L419
        LDRSPI    r0,    [sp,   #6]
        BL        L80
        BEQ       L421
        MOVI      r0,    #132
        LDRR      r0,    [r7,   r0]
        STRSPI    r0,    [sp,   #2]
        MOVI      r0,    #0
        LDRSPI    r1,    [sp,   #6]
        BL        L85
        MOVI      r0,    #132
        LDRR      r0,    [r7,   r0]
        ADDI      r0,    #1
        MOVI      r1,    #132
        STRR      r0,    [r7,   r1]
        BL        L90
        MOVI      r0,    #18
        MOVI      r1,    #0
        LDRSPI    r2,    [sp,   #2]
        BL        L100
        MOVI      r0,    #0
        LDRSPI    r1,    [sp,   #1]
        BL        L85
```

```
         MOVI      r0,    #19
         MOVI      r1,    #1
         LDRSPI    r2,    [sp,   #2]
         BL        L100
         LDRSPI    r0,    [sp,   #2]
         MOVI      r1,    #132
         STRR      r0,    [r7,   r1]
         BU        L420
L421
         MOVI      r0,    #0
         LDRSPI    r1,    [sp,   #1]
         BL        L85
         MOVI      r0,    #1
         LDRSPI    r1,    [sp,   #6]
         BL        L85
L420
         MOVI      r0,    #0
         LDRSPI    r1,    [sp,   #5]
         MOVI      r2,    #1
         BL        L83
         BU        L415
L419
         LDRSPI    r0,    [sp,   #6]
         BL        L80
         BEQ       L422
         MOVI      r0,    #0
         LDRSPI    r1,    [sp,   #6]
         BL        L85
         MOVI      r0,    #1
         LDRSPI    r1,    [sp,   #1]
         BL        L85
         MOVI      r0,    #1
         LDRSPI    r1,    [sp,   #5]
         MOVI      r2,    #0
         BL        L83
         BU        L415
L422
         LDRSPI    r0,    [sp,   #1]
         BL        L79
         STRSPI    r0,    [sp,   #8]
         LDRSPI    r0,    [sp,   #6]
         BL        L79
         LDRSPI    r1,    [sp,   #8]
         SUBR      r0,    r0,    r1
         BGE       L423
         MOVI      r0,    #0
         LDRSPI    r1,    [sp,   #1]
         BL        L85
         MOVI      r0,    #1
```

```
       LDRSPI   r1,    [sp,   #6]
       BL       L85
       MOVI     r0,    #0
       LDRSPI   r1,    [sp,   #5]
       MOVI     r2,    #1
       BL       L83
       BU       L415
       ADDI     r0,    #0
S222
       DCD      1918988306
       DCD      1952804193
       DCD      1830842981
       DCD      1634562921
       DCD      6841204
S227
       DCD      1920098574
       DCD      1696627041
       DCD      1667592312
       DCD      6579572
L423
       MOVI     r0,    #0
       LDRSPI   r1,    [sp,   #6]
       BL       L85
       MOVI     r0,    #1
       LDRSPI   r1,    [sp,   #1]
       BL       L85
       MOVI     r0,    #1
       LDRSPI   r1,    [sp,   #5]
       MOVI     r2,    #0
       BL       L83
L415
       INCSP    #9
       POP
```

```
PROC subassign
L83
    PUSH
    DECSP    #3
    STRSPI   r0,   [sp,   #0]
    STRSPI   r1,   [sp,   #1]
    STRSPI   r2,   [sp,   #2]
    MOVI     r0,   #2
    LDRSPI   r1,   [sp,   #1]
    BL       L81
    MOVI     r0,   #0
    LDRSPI   r1,   [sp,   #2]
    LDRSPI   r2,   [sp,   #2]
    MOVI     r3,   #2
    BL       L97
    MOVI     r0,   #40
    LDRSPI   r1,   [sp,   #0]
    MOVI     r2,   #2
    LDRSPI   r3,   [sp,   #2]
    BL       L98
    INCSP    #3
    POP
```

```
PROC tbexp
L84
    PUSH
    DECSP    #4
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    LDRI     r0,    [r7,   #2]
    LDRSPI   r1,    [sp,   #1]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    STRSPI   r0,    [sp,   #2]
    LDRSPI   r0,    [sp,   #0]
    LDRSPI   r1,    [sp,   #1]
    BL       L85
    LDRSPI   r0,    [sp,   #2]
    SUBI     r0,    #1
    BNE      L425
    LDRSPI   r0,    [sp,   #1]
    BL       L56
    STRSPI   r0,    [sp,   #3]
    LDRI     r0,    [r7,   #2]
    LDRI     r1,    [r7,   #18]
    LDRSPI   r2,    [sp,   #3]
    LSLI     r2,    r2,    #2
    LDRR     r1,    [r1,   r2]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    SUBI     r0,    #21
    BNE      L424
    MOVI     r0,    #6
    LDRSPI   r1,    [sp,   #0]
    MOVI     r2,    #0
    BL       L100
    BU       L424
L425
    LDRSPI   r0,    [sp,   #2]
    SUBI     r0,    #80
    BNE      L424
    MOVI     r0,    #6
    LDRSPI   r1,    [sp,   #0]
    MOVI     r2,    #0
    BL       L100
L424
    INCSP    #4
    POP
```

```
PROC texp
L85
    PUSH
    DECSP    #8
    STRSPI   r0,   [sp,   #0]
    STRSPI   r1,   [sp,   #1]
    LDRI     r0,   [r7,   #2]
    LDRSPI   r1,   [sp,   #1]
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    STRSPI   r0,   [sp,   #2]
    LDRSPI   r0,   [sp,   #1]
    BL       L60
    BEQ      L427
    LDRSPI   r0,   [sp,   #1]
    BL       L61
    STRSPI   r0,   [sp,   #6]
    LDRSPI   r0,   [sp,   #0]
    LDRSPI   r1,   [sp,   #6]
    BL       L91
    BU       L426
L427
    LDRSPI   r0,   [sp,   #2]
    SUBI     r0,   #1
    BNE      L428
    LDRSPI   r0,   [sp,   #1]
    BL       L56
    STRSPI   r0,   [sp,   #3]
    LDRI     r0,   [r7,   #18]
    LDRSPI   r1,   [sp,   #3]
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    STRSPI   r0,   [sp,   #7]
    LDRI     r0,   [r7,   #2]
    LDRSPI   r1,   [sp,   #7]
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    SUBI     r0,   #35
    BNE      L429
    LDRSPI   r0,   [sp,   #0]
    LDRI     r1,   [r7,   #19]
    LDRSPI   r2,   [sp,   #3]
    LSLI     r2,   r2,    #2
    LDRR     r1,   [r1,   r2]
    BL       L91
    BU       L426
L429
    LDRI     r0,   [r7,   #2]
```

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```
        LDRSPI   r1,    [sp,   #7]
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        SUBI     r0,    #21
        BEQ      #1
        BU       L426
        LDRSPI   r0,    [sp,   #0]
        LDRSPI   r1,    [sp,   #3]
        BL       L93
        BU       L426
L428
        LDRSPI   r0,    [sp,   #2]
        SUBI     r0,    #36
        BNE      L430
        LDRSPI   r0,    [sp,   #0]
        LDRSPI   r1,    [sp,   #1]
        BL       L109
        BU       L426
L430
        LDRSPI   r0,    [sp,   #2]
        SUBI     r0,    #34
        BNE      L431
        LDRSPI   r0,    [sp,   #0]
        LDRI     r1,    [r7,   #2]
        LDRSPI   r2,    [sp,   #1]
        ADDI     r2,    #1
        LSLI     r2,    r2,    #2
        LDRR     r1,    [r1,   r2]
        BL       L85
        MOVI     r0,    #9
        LDRSPI   r1,    [sp,   #0]
        LDRSPI   r2,    [sp,   #0]
        BL       L99
        BU       L426
L431
        LDRSPI   r0,    [sp,   #2]
        SUBI     r0,    #32
        BNE      L432
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #1]
        ADDI     r1,    #1
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        STRSPI   r0,    [sp,   #3]
        LDRI     r0,    [r7,   #2]
        LDRSPI   r1,    [sp,   #3]
        LSLI     r1,    r1,    #2
        LDRR     r0,    [r0,   r1]
        SUBI     r0,    #74
```

```
        BNE       L433
        MOVI      r0,   #65
        LDRSPI    r1,   [sp,   #0]
        LDRI      r2,   [r7,   #2]
        LDRSPI    r3,   [sp,   #3]
        ADDI      r3,   #1
        LSLI      r3,   r3,   #2
        LDRR      r2,   [r2,   r3]
        LDRI      r3,   [r7,   #2]
        LDRSPI    r4,   [sp,   #3]
        ADDI      r4,   #2
        LSLI      r4,   r4,   #2
        LDRR      r3,   [r3,   r4]
        BL        L86
        MOVI      r0,   #208
        MOVI      r1,   #1
        BL        L102
        MOVI      r0,   #4
        LDRSPI    r1,   [sp,   #0]
        MOVI      r2,   #1
        BL        L100
        MOVI      r0,   #9
        LDRSPI    r1,   [sp,   #0]
        LDRSPI    r2,   [sp,   #0]
        BL        L99
        BU        L426
L433
        LDRSPI    r0,   [sp,   #0]
        LDRI      r1,   [r7,   #2]
        LDRSPI    r2,   [sp,   #1]
        ADDI      r2,   #1
        LSLI      r2,   r2,   #2
        LDRR      r1,   [r1,   r2]
        BL        L85
        MOVI      r0,   #15
        LDRSPI    r1,   [sp,   #0]
        LDRSPI    r2,   [sp,   #0]
        BL        L99
        BU        L426
L432
        LDRSPI    r0,   [sp,   #2]
        SUBI      r0,   #81
        BEQ       #1
        MOVI      r0,   #1
        SUBI      r0,   #1
        LDRSPI    r1,   [sp,   #2]
        SUBI      r1,   #80
        BEQ       #1
        MOVI      r1,   #1
```

```
        SUBI      r1,   #1
        ORR       r0,   r1
        BNE       #1
        BU        L434
        LDRI      r0,   [r7,   #2]
        LDRSPI    r1,   [sp,   #1]
        ADDI      r1,   #1
        LSLI      r1,   r1,   #2
        LDRR      r0,   [r0,   r1]
        STRSPI    r0,   [sp,   #3]
        LDRI      r0,   [r7,   #18]
        LDRSPI    r1,   [sp,   #3]
        LSLI      r1,   r1,   #2
        LDRR      r0,   [r0,   r1]
        STRSPI    r0,   [sp,   #7]
        LDRI      r0,   [r7,   #2]
        LDRSPI    r1,   [sp,   #1]
        ADDI      r1,   #2
        LSLI      r1,   r1,   #2
        LDRR      r0,   [r0,   r1]
        BL        L60
        BEQ       L435
        LDRSPI    r0,   [sp,   #0]
        LDRSPI    r1,   [sp,   #3]
        BL        L81
        LDRI      r0,   [r7,   #2]
        LDRSPI    r1,   [sp,   #1]
        ADDI      r1,   #2
        LSLI      r1,   r1,   #2
        LDRR      r0,   [r0,   r1]
        BL        L61
        STRSPI    r0,   [sp,   #6]
        LDRSPI    r0,   [sp,   #6]
        SUBI      r0,   #32
        BGE       L436
        LDRSPI    r0,   [sp,   #2]
        SUBI      r0,   #80
        BNE       L437
        MOVI      r0,   #13
        LDRSPI    r1,   [sp,   #0]
        LDRSPI    r2,   [sp,   #0]
        LDRSPI    r3,   [sp,   #6]
        BL        L97
        BU        L426
L437
        MOVI      r0,   #6
        LDRSPI    r1,   [sp,   #0]
        LDRSPI    r2,   [sp,   #6]
        LSLI      r2,   r2,   #2
```

```
      BL        L100
      BU        L426
L436
      LDRSPI    r0,    [sp,   #0]
      ADDI      r0,    #1
      LDRSPI    r1,    [sp,   #6]
      LSLI      r1,    r1,    #2
      BL        L91
      LDRSPI    r0,    [sp,   #2]
      SUBI      r0,    #80
      BNE       L438
      MOVI      r0,    #44
      LDRSPI    r1,    [sp,   #0]
      LDRSPI    r2,    [sp,   #0]
      LDRSPI    r3,    [sp,   #0]
      ADDI      r3,    #1
      BL        L98
      BU        L426
L438
      MOVI      r0,    #12
      LDRSPI    r1,    [sp,   #0]
      LDRSPI    r2,    [sp,   #0]
      LDRSPI    r3,    [sp,   #0]
      ADDI      r3,    #1
      BL        L98
      BU        L426
L435
      LDRI      r0,    [r7,   #2]
      LDRSPI    r1,    [sp,   #1]
      ADDI      r1,    #2
      LSLI      r1,    r1,    #2
      LDRR      r0,    [r0,   r1]
      BL        L80
      BEQ       L439
      MOVI      r0,    #0
      LDRI      r1,    [r7,   #2]
      LDRSPI    r2,    [sp,   #1]
      ADDI      r2,    #2
      LSLI      r2,    r2,    #2
      LDRR      r1,    [r1,   r2]
      BL        L85
      MOVI      r0,    #0
      MOVI      r1,    #0
      MOVI      r2,    #0
      MOVI      r3,    #2
      BL        L97
      MOVI      r0,    #1
      LDRSPI    r1,    [sp,   #3]
      BL        L81
```

```
        LDRSPI   r0,    [sp,   #2]
        SUBI     r0,    #80
        BNE      L440
        MOVI     r0,    #44
        MOVI     r1,    #0
        MOVI     r2,    #1
        MOVI     r3,    #0
        BL       L98
        BU       L426
L440
        MOVI     r0,    #12
        MOVI     r1,    #0
        MOVI     r2,    #1
        MOVI     r3,    #0
        BL       L98
        BU       L426
L439
        LDRSPI   r0,    [sp,   #0]
        LDRSPI   r1,    [sp,   #3]
        BL       L81
        LDRSPI   r0,    [sp,   #0]
        ADDI     r0,    #1
        LDRI     r1,    [r7,   #2]
        LDRSPI   r2,    [sp,   #1]
        ADDI     r2,    #2
        LSLI     r2,    r2,    #2
        LDRR     r1,    [r1,   r2]
        BL       L85
        MOVI     r0,    #0
        LDRSPI   r1,    [sp,   #0]
        ADDI     r1,    #1
        LDRSPI   r2,    [sp,   #0]
        ADDI     r2,    #1
        MOVI     r3,    #2
        BL       L97
        LDRSPI   r0,    [sp,   #2]
        SUBI     r0,    #80
        BNE      L441
        MOVI     r0,    #44
        LDRSPI   r1,    [sp,   #0]
        LDRSPI   r2,    [sp,   #0]
        LDRSPI   r3,    [sp,   #0]
        ADDI     r3,    #1
        BL       L98
        BU       L426
L441
        MOVI     r0,    #12
        LDRSPI   r1,    [sp,   #0]
        LDRSPI   r2,    [sp,   #0]
```

```
        LDRSPI    r3,    [sp,   #0]
        ADDI      r3,    #1
        BL        L98
        BU        L426
L434
        LDRSPI    r0,    [sp,   #2]
        SUBI      r0,    #8
        BNE       L442
        LDRSPI    r0,    [sp,   #1]
        MOVI      r1,    #1
        NEGR      r1,    r1
        MOVI      r2,    #0
        MOVI      r3,    #0
        BL        L69
        BU        L426
L442
        LDRSPI    r0,    [sp,   #2]
        SUBI      r0,    #76
        BNE       L443
        MOVI      r0,    #65
        LDRSPI    r1,    [sp,   #0]
        LDRI      r2,    [r7,   #2]
        LDRSPI    r3,    [sp,   #1]
        ADDI      r3,    #1
        LSLI      r3,    r3,    #2
        LDRR      r2,    [r2,   r3]
        LDRI      r3,    [r7,   #2]
        LDRSPI    r4,    [sp,   #1]
        ADDI      r4,    #2
        LSLI      r4,    r4,    #2
        LDRR      r3,    [r3,   r4]
        BL        L86
        MOVI      r0,    #2
        LDRSPI    r1,    [sp,   #0]
        LDRSPI    r2,    [sp,   #0]
        MOVI      r3,    #31
        BL        L97
        BU        L426
L443
        LDRSPI    r0,    [sp,   #2]
        SUBI      r0,    #74
        BNE       L444
        MOVI      r0,    #65
        LDRSPI    r1,    [sp,   #0]
        LDRI      r2,    [r7,   #2]
        LDRSPI    r3,    [sp,   #1]
        ADDI      r3,    #1
        LSLI      r3,    r3,    #2
        LDRR      r2,    [r2,   r3]
```

```
        LDRI      r3,    [r7,   #2]
        LDRSPI    r4,    [sp,   #1]
        ADDI      r4,    #2
        LSLI      r4,    r4,    #2
        LDRR      r3,    [r3,   r4]
        BL        L86
        MOVI      r0,    #208
        MOVI      r1,    #1
        BL        L102
        MOVI      r0,    #4
        LDRSPI    r1,    [sp,   #0]
        MOVI      r2,    #1
        BL        L100
        MOVI      r0,    #7
        LDRSPI    r1,    [sp,   #0]
        MOVI      r2,    #1
        BL        L100
        BU        L426
L444
        LDRSPI    r0,    [sp,   #2]
        LDRSPI    r1,    [sp,   #0]
        LDRI      r2,    [r7,   #2]
        LDRSPI    r3,    [sp,   #1]
        ADDI      r3,    #1
        LSLI      r3,    r3,    #2
        LDRR      r2,    [r2,   r3]
        LDRI      r3,    [r7,   #2]
        LDRSPI    r4,    [sp,   #1]
        ADDI      r4,    #2
        LSLI      r4,    r4,    #2
        LDRR      r3,    [r3,   r4]
        BL        L86
L426
        INCSP     #8
        POP
```

```
PROC texp2
L86
    PUSH
    DECSP    #6
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    STRSPI   r2,    [sp,   #2]
    STRSPI   r3,    [sp,   #3]
    LDRSPI   r0,    [sp,   #2]
    BL       L78
    LDRSPI   r1,    [sp,   #0]
    SUBI     r1,    #64
    BEQ      #1
    MOVI     r1,    #1
    SUBI     r1,    #1
    ANDR     r0,    r1
    BEQ      L446
    LDRSPI   r0,    [sp,   #1]
    LDRSPI   r1,    [sp,   #3]
    BL       L85
    LDRSPI   r0,    [sp,   #2]
    BL       L61
    STRSPI   r0,    [sp,   #5]
    LDRSPI   r0,    [sp,   #0]
    LDRSPI   r1,    [sp,   #1]
    LDRSPI   r2,    [sp,   #5]
    BL       L88
    BU       L445
L446
    LDRSPI   r0,    [sp,   #3]
    BL       L78
    LDRSPI   r1,    [sp,   #0]
    SUBI     r1,    #65
    BEQ      #1
    MOVI     r1,    #1
    SUBI     r1,    #1
    LDRSPI   r2,    [sp,   #0]
    SUBI     r2,    #64
    BEQ      #1
    MOVI     r2,    #1
    SUBI     r2,    #1
    ORR      r1,    r2
    ANDR     r0,    r1
    BEQ      L447
    LDRSPI   r0,    [sp,   #1]
    LDRSPI   r1,    [sp,   #2]
    BL       L85
    LDRSPI   r0,    [sp,   #3]
```

```
        BL        L61
        STRSPI    r0,   [sp,   #5]
        LDRSPI    r0,   [sp,   #0]
        LDRSPI    r1,   [sp,   #1]
        LDRSPI    r2,   [sp,   #5]
        BL        L88
        BU        L445
L447
        LDRSPI    r0,   [sp,   #3]
        BL        L77
        LDRSPI    r1,   [sp,   #0]
        SUBI      r1,   #73
        BEQ       #1
        MOVI      r1,   #1
        SUBI      r1,   #1
        LDRSPI    r2,   [sp,   #0]
        SUBI      r2,   #72
        BEQ       #1
        MOVI      r2,   #1
        SUBI      r2,   #1
        ORR       r1,   r2
        ANDR      r0,   r1
        BEQ       L448
        LDRSPI    r0,   [sp,   #1]
        LDRSPI    r1,   [sp,   #2]
        BL        L85
        LDRSPI    r0,   [sp,   #3]
        BL        L61
        STRSPI    r0,   [sp,   #5]
        LDRSPI    r0,   [sp,   #0]
        LDRSPI    r1,   [sp,   #1]
        LDRSPI    r2,   [sp,   #5]
        BL        L88
        BU        L445
L448
        LDRSPI    r0,   [sp,   #3]
        BL        L80
        BEQ       L449
        LDRSPI    r0,   [sp,   #2]
        BL        L80
        BEQ       L450
        MOVI      r0,   #132
        LDRR      r0,   [r7,   r0]
        STRSPI    r0,   [sp,   #4]
        MOVI      r0,   #0
        LDRSPI    r1,   [sp,   #3]
        BL        L85
        MOVI      r0,   #132
        LDRR      r0,   [r7,   r0]
```

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```
        ADDI     r0,    #1
        MOVI     r1,    #132
        STRR     r0,    [r7,   r1]
        BL       L90
        MOVI     r0,    #18
        MOVI     r1,    #0
        LDRSPI   r2,    [sp,   #4]
        BL       L100
        MOVI     r0,    #0
        LDRSPI   r1,    [sp,   #2]
        BL       L85
        MOVI     r0,    #19
        MOVI     r1,    #1
        LDRSPI   r2,    [sp,   #4]
        BL       L100
        LDRSPI   r0,    [sp,   #0]
        MOVI     r1,    #0
        MOVI     r2,    #1
        BL       L87
        LDRSPI   r0,    [sp,   #4]
        MOVI     r1,    #132
        STRR     r0,    [r7,   r1]
        BU       L445
L450
        MOVI     r0,    #0
        LDRSPI   r1,    [sp,   #3]
        BL       L85
        LDRSPI   r0,    [sp,   #0]
        SUBI     r0,    #73
        BEQ      #1
        MOVI     r0,    #1
        SUBI     r0,    #1
        LDRSPI   r1,    [sp,   #0]
        SUBI     r1,    #72
        BEQ      #1
        MOVI     r1,    #1
        SUBI     r1,    #1
        ORR      r0,    r1
        BEQ      L451
        MOVI     r0,    #0
        MOVI     r1,    #6
        MOVI     r2,    #0
        MOVI     r3,    #0
        BL       L97
        MOVI     r0,    #0
        LDRSPI   r1,    [sp,   #2]
        BL       L85
        LDRSPI   r0,    [sp,   #0]
        MOVI     r1,    #0
```

```
        MOVI      r2,    #6
        BL        L87
        BU        L445
L451
        MOVI      r0,    #1
        LDRSPI    r1,    [sp,   #2]
        BL        L85
        LDRSPI    r0,    [sp,   #0]
        SUBI      r0,    #65
        BNE       L452
        MOVI      r0,    #13
        MOVI      r1,    #0
        MOVI      r2,    #1
        MOVI      r3,    #0
        BL        L98
        BU        L445
L452
        LDRSPI    r0,    [sp,   #0]
        MOVI      r1,    #0
        MOVI      r2,    #1
        BL        L87
        BU        L445
L449
        LDRSPI    r0,    [sp,   #2]
        BL        L80
        BEQ       L453
        MOVI      r0,    #0
        LDRSPI    r1,    [sp,   #2]
        BL        L85
        MOVI      r0,    #1
        LDRSPI    r1,    [sp,   #3]
        BL        L85
        LDRSPI    r0,    [sp,   #0]
        MOVI      r1,    #0
        MOVI      r2,    #1
        BL        L87
        BU        L445
L453
        LDRSPI    r0,    [sp,   #0]
        SUBI      r0,    #73
        BEQ       #1
        MOVI      r0,    #1
        SUBI      r0,    #1
        LDRSPI    r1,    [sp,   #0]
        SUBI      r1,    #72
        BEQ       #1
        MOVI      r1,    #1
        SUBI      r1,    #1
        ORR       r0,    r1
```

```
       BEQ      L454
       LDRSPI   r0,    [sp,   #1]
       LDRSPI   r1,    [sp,   #2]
       BL       L85
       LDRSPI   r0,    [sp,   #1]
       ADDI     r0,    #1
       LDRSPI   r1,    [sp,   #3]
       BL       L85
       LDRSPI   r0,    [sp,   #0]
       LDRSPI   r1,    [sp,   #1]
       LDRSPI   r2,    [sp,   #1]
       ADDI     r2,    #1
       BL       L87
       BU       L445
L454
       LDRSPI   r0,    [sp,   #2]
       BL       L79
       STRSPI   r0,    [sp,   #5]
       LDRSPI   r0,    [sp,   #3]
       BL       L79
       LDRSPI   r1,    [sp,   #5]
       SUBR     r0,    r0,    r1
       BGE      L455
       LDRSPI   r0,    [sp,   #1]
       LDRSPI   r1,    [sp,   #2]
       BL       L85
       LDRSPI   r0,    [sp,   #1]
       ADDI     r0,    #1
       LDRSPI   r1,    [sp,   #3]
       BL       L85
       LDRSPI   r0,    [sp,   #0]
       LDRSPI   r1,    [sp,   #1]
       LDRSPI   r2,    [sp,   #1]
       ADDI     r2,    #1
       BL       L87
       BU       L445
L455
       LDRSPI   r0,    [sp,   #1]
       LDRSPI   r1,    [sp,   #3]
       BL       L85
       LDRSPI   r0,    [sp,   #1]
       ADDI     r0,    #1
       LDRSPI   r1,    [sp,   #2]
       BL       L85
       LDRSPI   r0,    [sp,   #0]
       SUBI     r0,    #65
       BNE      L456
       MOVI     r0,    #13
       LDRSPI   r1,    [sp,   #1]
```

```
        LDRSPI    r2,     [sp,    #1]
        ADDI      r2,     #1
        LDRSPI    r3,     [sp,    #1]
        BL        L98
        BU        L445
L456
        LDRSPI    r0,     [sp,    #0]
        LDRSPI    r1,     [sp,    #1]
        LDRSPI    r2,     [sp,    #1]
        ADDI      r2,     #1
        BL        L87
L445
        INCSP     #6
        POP
```

PROC genop
L87
```
    PUSH
    DECSP    #3
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    STRSPI   r2,    [sp,   #2]
    LDRSPI   r0,    [sp,   #0]
    SUBI     r0,    #64
    BNE      L458
    MOVI     r0,    #12
    LDRSPI   r1,    [sp,   #1]
    LDRSPI   r2,    [sp,   #1]
    LDRSPI   r3,    [sp,   #2]
    BL       L98
    BU       L457
```
L458
```
    LDRSPI   r0,    [sp,   #0]
    SUBI     r0,    #65
    BNE      L459
    MOVI     r0,    #13
    LDRSPI   r1,    [sp,   #1]
    LDRSPI   r2,    [sp,   #1]
    LDRSPI   r3,    [sp,   #2]
    BL       L98
    BU       L457
```
L459
```
    LDRSPI   r0,    [sp,   #0]
    SUBI     r0,    #66
    BNE      L460
    MOVI     r0,    #13
    LDRSPI   r1,    [sp,   #1]
    LDRSPI   r2,    [sp,   #2]
    BL       L99
    BU       L457
```
L460
```
    LDRSPI   r0,    [sp,   #0]
    SUBI     r0,    #70
    BNE      L461
    MOVI     r0,    #0
    LDRSPI   r1,    [sp,   #1]
    LDRSPI   r2,    [sp,   #2]
    BL       L99
    BU       L457
```
L461
```
    LDRSPI   r0,    [sp,   #0]
    SUBI     r0,    #69
    BNE      L462
```

```
        MOVI     r0,    #12
        LDRSPI   r1,    [sp,   #1]
        LDRSPI   r2,    [sp,   #2]
        BL       L99
        BU       L457
L462
        LDRSPI   r0,    [sp,   #0]
        SUBI     r0,    #71
        BNE      L463
        MOVI     r0,    #1
        LDRSPI   r1,    [sp,   #1]
        LDRSPI   r2,    [sp,   #2]
        BL       L99
        BU       L457
L463
        LDRSPI   r0,    [sp,   #0]
        SUBI     r0,    #72
        BNE      L464
        MOVI     r0,    #2
        LDRSPI   r1,    [sp,   #1]
        LDRSPI   r2,    [sp,   #2]
        BL       L99
        BU       L457
L464
        LDRSPI   r0,    [sp,   #0]
        SUBI     r0,    #73
        BNE      L457
        MOVI     r0,    #3
        LDRSPI   r1,    [sp,   #1]
        LDRSPI   r2,    [sp,   #2]
        BL       L99
L457
        INCSP    #3
        POP
```

```
PROC genopimm
L88
   PUSH
   DECSP    #3
   STRSPI   r0,   [sp,   #0]
   STRSPI   r1,   [sp,   #1]
   STRSPI   r2,   [sp,   #2]
   LDRSPI   r0,   [sp,   #0]
   SUBI     r0,   #64
   BNE      L466
   MOVI     r0,   #6
   LDRSPI   r1,   [sp,   #1]
   LDRSPI   r2,   [sp,   #2]
   BL       L100
   BU       L465
L466
   LDRSPI   r0,   [sp,   #0]
   SUBI     r0,   #65
   BNE      L467
   MOVI     r0,   #7
   LDRSPI   r1,   [sp,   #1]
   LDRSPI   r2,   [sp,   #2]
   BL       L100
   BU       L465
L467
   LDRSPI   r0,   [sp,   #0]
   SUBI     r0,   #72
   BNE      L468
   MOVI     r0,   #0
   LDRSPI   r1,   [sp,   #1]
   LDRSPI   r2,   [sp,   #1]
   LDRSPI   r3,   [sp,   #2]
   BL       L97
   BU       L465
L468
   LDRSPI   r0,   [sp,   #0]
   SUBI     r0,   #73
   BNE      L465
   MOVI     r0,   #1
   LDRSPI   r1,   [sp,   #1]
   LDRSPI   r2,   [sp,   #1]
   LDRSPI   r3,   [sp,   #2]
   BL       L97
L465
   INCSP    #3
   POP
```

```
PROC stk_init
L89
    PUSH
    MOVI     r0,   #0
    MOVI     r1,   #132
    STRR     r0,   [r7,   r1]
    MOVI     r0,   #0
    MOVI     r1,   #136
    STRR     r0,   [r7,   r1]
    POP
```

```
PROC setstack
L90
   PUSH
   MOVI     r0,   #132
   LDRR     r0,   [r7,  r0]
   MOVI     r1,   #136
   LDRR     r1,   [r7,  r1]
   SUBR     r0,   r1,   r0
   BGE      L469
   MOVI     r0,   #132
   LDRR     r0,   [r7,  r0]
   MOVI     r1,   #136
   STRR     r0,   [r7,  r1]
L469
   POP
```

```
PROC loadconst
L91
    PUSH
    DECSP     #4
    STRSPI    r0,    [sp,   #0]
    STRSPI    r1,    [sp,   #1]
    LDRSPI    r0,    [sp,   #1]
    SUBI      r0,    #0
    BLT       L471
    MOVI      r0,    #1
    LSLI      r0,    r0,    #8
    LDRSPI    r1,    [sp,   #1]
    SUBR      r0,    r1,    r0
    BGE       L472
    MOVI      r0,    #4
    LDRSPI    r1,    [sp,   #0]
    LDRSPI    r2,    [sp,   #1]
    BL        L100
    BU        L470
L472
    LDRSPI    r0,    [sp,   #1]
    STRSPI    r0,    [sp,   #2]
    MOVI      r0,    #0
    STRSPI    r0,    [sp,   #3]
L474
    MOVI      r0,    #1
    LDRSPI    r1,    [sp,   #2]
    ANDR      r0,    r1
    BNE       L473
    LDRSPI    r0,    [sp,   #2]
    LSRI      r0,    r0,    #1
    STRSPI    r0,    [sp,   #2]
    LDRSPI    r0,    [sp,   #3]
    ADDI      r0,    #1
    STRSPI    r0,    [sp,   #3]
    BU        L474
L473
    MOVI      r0,    #1
    LSLI      r0,    r0,    #8
    LDRSPI    r1,    [sp,   #2]
    SUBR      r0,    r1,    r0
    BGE       L475
    MOVI      r0,    #4
    LDRSPI    r1,    [sp,   #0]
    LDRSPI    r2,    [sp,   #2]
    BL        L100
    MOVI      r0,    #0
    LDRSPI    r1,    [sp,   #0]
```

```
        LDRSPI   r2,    [sp,   #0]
        LDRSPI   r3,    [sp,   #3]
        BL       L97
        BU       L470
L475
        LDRSPI   r0,    [sp,   #0]
        LDRSPI   r1,    [sp,   #1]
        BL       L108
        BU       L470
L471
        LDRSPI   r0,    [sp,   #1]
        LDRPCI   r1,    C14
        SUBR     r0,    r1,    r0
        BGE      L476
        MOVI     r0,    #4
        LDRSPI   r1,    [sp,   #0]
        LDRSPI   r2,    [sp,   #1]
        NEGR     r2,    r2
        BL       L100
        MOVI     r0,    #9
        LDRSPI   r1,    [sp,   #0]
        LDRSPI   r2,    [sp,   #0]
        BL       L99
        BU       L470
L476
        LDRSPI   r0,    [sp,   #0]
        LDRSPI   r1,    [sp,   #1]
        BL       L108
L470
        INCSP    #4
        POP
```

```
PROC loadproc
L92
    PUSH
    DECSP     #2
    STRSPI    r0,    [sp,   #0]
    STRSPI    r1,    [sp,   #1]
    LDRSPI    r0,    [sp,   #1]
    BL        L57
    BEQ       L478
    LDRSPI    r0,    [sp,   #0]
    LDRSPI    r1,    [sp,   #1]
    BL        L93
    BU        L477
L478
    LDRSPI    r0,    [sp,   #0]
    LDRI      r1,    [r7,   #19]
    LDRSPI    r2,    [sp,   #1]
    LSLI      r2,    r2,    #2
    LDRR      r1,    [r1,   r2]
    BL        L110
L477
    INCSP     #2
    POP
```

```
PROC loadvar
L93
  PUSH
  DECSP    #3
  STRSPI   r0,    [sp,   #0]
  STRSPI   r1,    [sp,   #1]
  LDRI     r0,    [r7,   #19]
  LDRSPI   r1,    [sp,   #1]
  LSLI     r1,    r1,    #2
  LDRR     r0,    [r0,   r1]
  STRSPI   r0,    [sp,   #2]
  LDRSPI   r0,    [sp,   #1]
  BL       L57
  BEQ      L480
  MOVI     r0,    #19
  LDRSPI   r1,    [sp,   #0]
  LDRSPI   r2,    [sp,   #2]
  BL       L100
  BU       L479
L480
  LDRSPI   r0,    [sp,   #2]
  SUBI     r0,    #32
  BGE      L481
  MOVI     r0,    #13
  LDRSPI   r1,    [sp,   #0]
  MOVI     r2,    #7
  LDRSPI   r3,    [sp,   #2]
  BL       L97
  BU       L479
L481
  LDRSPI   r0,    [sp,   #0]
  LDRSPI   r1,    [sp,   #2]
  LSLI     r1,    r1,    #2
  BL       L91
  MOVI     r0,    #44
  LDRSPI   r1,    [sp,   #0]
  MOVI     r2,    #7
  LDRSPI   r3,    [sp,   #0]
  BL       L98
L479
  INCSP    #3
  POP
```

```
PROC storevar
L94
   PUSH
   DECSP    #3
   STRSPI   r0,    [sp,   #0]
   STRSPI   r1,    [sp,   #1]
   LDRI     r0,    [r7,   #19]
   LDRSPI   r1,    [sp,   #1]
   LSLI     r1,    r1,    #2
   LDRR     r0,    [r0,   r1]
   STRSPI   r0,    [sp,   #2]
   LDRSPI   r0,    [sp,   #1]
   BL       L57
   BEQ      L483
   MOVI     r0,    #18
   LDRSPI   r1,    [sp,   #0]
   LDRSPI   r2,    [sp,   #2]
   BL       L100
   BU       L482
L483
   LDRSPI   r0,    [sp,   #2]
   SUBI     r0,    #32
   BGE      L484
   MOVI     r0,    #12
   LDRSPI   r1,    [sp,   #0]
   MOVI     r2,    #7
   LDRSPI   r3,    [sp,   #2]
   BL       L97
   BU       L482
L484
   LDRSPI   r0,    [sp,   #0]
   ADDI     r0,    #1
   LDRSPI   r1,    [sp,   #2]
   LSLI     r1,    r1,    #2
   BL       L91
   MOVI     r0,    #40
   LDRSPI   r1,    [sp,   #0]
   MOVI     r2,    #7
   LDRSPI   r3,    [sp,   #0]
   ADDI     r3,    #1
   BL       L98
L482
   INCSP    #3
   POP
```

```
FUNC monadic
L95
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,    #0]
    LDRSPI   r0,    [sp,    #0]
    SUBI     r0,    #34
    BEQ      #1
    MOVI     r0,    #1
    SUBI     r0,    #1
    LDRSPI   r1,    [sp,    #0]
    SUBI     r1,    #32
    BEQ      #1
    MOVI     r1,    #1
    SUBI     r1,    #1
    ORR      r0,    r1
    INCSP    #1
    POP
```

```
FUNC diadic
L96
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,    #0]
    MOVI     r0,    #64
    LDRSPI   r1,    [sp,    #0]
    ANDR     r0,    r1
    SUBI     r0,    #0
    BEQ      #1
    MOVI     r0,    #1
    NEGR     r0,    r0
    INCSP    #1
    POP
```

```
PROC gen3i
L97
  PUSH
  DECSP    #4
  STRSPI   r0,   [sp,  #0]
  STRSPI   r1,   [sp,  #1]
  STRSPI   r2,   [sp,  #2]
  STRSPI   r3,   [sp,  #3]
  LDRSPI   r0,   [sp,  #2]
  LSLI     r0,   r0,   #3
  LDRSPI   r1,   [sp,  #1]
  ORR      r0,   r1
  LDRSPI   r1,   [sp,  #3]
  LSLI     r1,   r1,   #6
  ORR      r0,   r1
  LDRSPI   r1,   [sp,  #0]
  LSLI     r1,   r1,   #11
  ORR      r0,   r1
  BL       L104
  INCSP    #4
  POP
```

```
PROC gen3
L98
  PUSH
  DECSP    #4
  STRSPI   r0,    [sp,   #0]
  STRSPI   r1,    [sp,   #1]
  STRSPI   r2,    [sp,   #2]
  STRSPI   r3,    [sp,   #3]
  LDRSPI   r0,    [sp,   #2]
  LSLI     r0,    r0,    #3
  LDRSPI   r1,    [sp,   #1]
  ORR      r0,    r1
  LDRSPI   r1,    [sp,   #3]
  LSLI     r1,    r1,    #6
  ORR      r0,    r1
  LDRSPI   r1,    [sp,   #0]
  LSLI     r1,    r1,    #9
  ORR      r0,    r1
  BL       L104
  INCSP    #4
  POP
```

```
PROC gen2
L99
  PUSH
  DECSP    #3
  STRSPI   r0,   [sp,   #0]
  STRSPI   r1,   [sp,   #1]
  STRSPI   r2,   [sp,   #2]
  LDRSPI   r0,   [sp,   #2]
  LSLI     r0,   r0,    #3
  LDRSPI   r1,   [sp,   #1]
  ORR      r0,   r1
  MOVI     r1,   #1
  LSLI     r1,   r1,    #8
  LDRSPI   r2,   [sp,   #0]
  ORR      r1,   r2
  LSLI     r1,   r1,    #6
  ORR      r0,   r1
  BL       L104
  INCSP    #3
  POP
```

```
PROC gen2i
L100
    PUSH
    DECSP    #3
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    STRSPI   r2,    [sp,   #2]
    LDRSPI   r0,    [sp,   #1]
    LSLI     r0,    r0,    #8
    LDRSPI   r1,    [sp,   #2]
    ORR      r0,    r1
    LDRSPI   r1,    [sp,   #0]
    LSLI     r1,    r1,    #11
    ORR      r0,    r1
    BL       L104
    INCSP    #3
    POP
```

```
PROC gensetsp
L101
    PUSH
    DECSP     #1
    STRSPI    r0,    [sp,    #0]
    LDRSPI    r0,    [sp,    #0]
    LSLI      r0,    r0,     #3
    MOVI      r1,    #5
    ORR       r0,    r1
    MOVI      r1,    #141
    LSLI      r1,    r1,     #7
    ORR       r0,    r1
    BL        L104
    INCSP     #1
    POP
```

```
PROC gen1i
L102
   PUSH
   DECSP    #2
   STRSPI   r0,   [sp,   #0]
   STRSPI   r1,   [sp,   #1]
   LDRSPI   r0,   [sp,   #0]
   LSLI     r0,   r0,    #8
   LDRSPI   r1,   [sp,   #1]
   ORR      r0,   r1
   BL       L104
   INCSP    #2
   POP
```

```
PROC gen1
L103
    PUSH
    DECSP   #2
    STRSPI  r0,   [sp,   #0]
    STRSPI  r1,   [sp,   #1]
    LDRSPI  r0,   [sp,   #1]
    LSLI    r0,   r0,   #3
    LDRSPI  r1,   [sp,   #0]
    LSLI    r1,   r1,   #7
    ORR     r0,   r1
    BL      L104
    INCSP   #2
    POP
```

```
PROC geni
L104
   PUSH
   DECSP    #1
   STRSPI   r0,   [sp,   #0]
   MOVI     r0,   #1
   MOVI     r1,   #0
   LDRSPI   r2,   [sp,   #0]
   BL       L111
   INCSP    #1
   POP
```

```
PROC gencbr
L105
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,    #0]
    STRSPI   r1,    [sp,    #1]
    MOVI     r0,    #4
    LDRSPI   r1,    [sp,    #0]
    LDRSPI   r2,    [sp,    #1]
    BL       L111
    INCSP    #2
    POP
```

```
PROC genbr
L106
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    LDRSPI   r0,    [sp,   #0]
    ADDI     r0,    #0
    BNE      L485
    MOVI     r0,    #5
    MOVI     r1,    #0
    LDRSPI   r2,    [sp,   #1]
    BL       L111
    MOVI     r0,    #25
    LSLI     r0,    r0,    #4
    BL       L118
L485
    INCSP    #2
    POP
```

```
PROC gencall
L107
    PUSH
    DECSP    #4
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    STRSPI   r2,    [sp,   #2]
    STRSPI   r3,    [sp,   #3]
    MOVI     r0,    #128
    LDRR     r0,    [r7,   r0]
    LDRSPI   r1,    [sp,   #0]
    SUBR     r0,    r1,    r0
    BEQ      #1
    MOVI     r0,    #1
    SUBI     r0,    #1
    LDRSPI   r1,    [sp,   #3]
    ANDR     r0,    r1
    BEQ      L487
    MOVI     r0,    #13
    MOVI     r1,    #0
    LDRSPI   r2,    [sp,   #0]
    BL       L111
    BU       L486
L487
    MOVI     r0,    #6
    MOVI     r1,    #0
    LDRSPI   r2,    [sp,   #0]
    BL       L111
    LDRSPI   r0,    [sp,   #1]
    LDRSPI   r1,    [sp,   #2]
    BL       L106
L486
    INCSP    #4
    POP
    ADDI     r0,    #0
C14
    DCD      -256
```

```
PROC genconst
L108
    PUSH
    DECSP    #5
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    BL       L117
    MOVI     r0,    #0
    STRSPI   r0,    [sp,   #4]
    LDRI     r0,    [r7,   #24]
    STRSPI   r0,    [sp,   #2]
L489
    LDRSPI   r0,    [sp,   #4]
    SUBI     r0,    #0
    BEQ      #1
    MOVI     r0,    #1
    SUBI     r0,    #1
    LDRI     r1,    [r7,   #23]
    LDRSPI   r2,    [sp,   #2]
    SUBR     r1,    r2,    r1
    ASRI     r1,    r1,    #31
    ANDR     r0,    r1
    BEQ      L488
    LDRI     r0,    [r7,   #22]
    LDRSPI   r1,    [sp,   #2]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    LDRSPI   r1,    [sp,   #1]
    SUBR     r0,    r0,    r1
    BNE      L490
    MOVI     r0,    #1
    NEGR     r0,    r0
    STRSPI   r0,    [sp,   #4]
    LDRSPI   r0,    [sp,   #2]
    STRSPI   r0,    [sp,   #3]
    BU       L489
L490
    LDRSPI   r0,    [sp,   #2]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,   #2]
    BU       L489
L488
    LDRSPI   r0,    [sp,   #4]
    ADDI     r0,    #0
    BNE      L491
    LDRI     r0,    [r7,   #23]
    LDRSPI   r1,    [sp,   #1]
    LDRI     r2,    [r7,   #22]
```

```
        LSLI     r0,   r0,   #2
        STRR     r1,   [r2,   r0]
        LDRI     r0,   [r7,   #23]
        STRSPI   r0,   [sp,   #3]
        LDRI     r0,   [r7,   #23]
        ADDI     r0,   #1
        STRI     r0,   [r7,   #23]
L491
        MOVI     r0,   #9
        LDRSPI   r1,   [sp,   #0]
        MOVI     r2,   #136
        ORR      r1,   r2
        LDRSPI   r2,   [sp,   #3]
        BL       L111
        INCSP    #5
        POP
```

```
PROC genstring
L109
    PUSH
    DECSP     #4
    STRSPI    r0,    [sp,   #0]
    STRSPI    r1,    [sp,   #1]
    BL        L117
    LDRI      r0,    [r7,   #26]
    STRSPI    r0,    [sp,   #3]
    MOVI      r0,    #0
    STRSPI    r0,    [sp,   #2]
L493
    LDRI      r0,    [r7,   #2]
    LDRSPI    r1,    [sp,   #1]
    ADDI      r1,    #1
    LSLI      r1,    r1,    #2
    LDRR      r0,    [r0,   r1]
    MOVI      r1,    #255
    ANDR      r0,    r1
    LSRI      r0,    r0,    #2
    LDRSPI    r1,    [sp,   #2]
    SUBR      r0,    r0,    r1
    BLT       L492
    LDRI      r1,    [r7,   #2]
    LDRSPI    r2,    [sp,   #2]
    ADDI      r2,    #1
    LDRSPI    r3,    [sp,   #1]
    ADDR      r2,    r2,    r3
    LSLI      r2,    r2,    #2
    LDRR      r1,    [r1,   r2]
    LDRI      r0,    [r7,   #26]
    LDRI      r2,    [r7,   #25]
    LSLI      r0,    r0,    #2
    STRR      r1,    [r2,   r0]
    LDRI      r0,    [r7,   #26]
    ADDI      r0,    #1
    STRI      r0,    [r7,   #26]
    LDRSPI    r0,    [sp,   #2]
    ADDI      r0,    #1
    STRSPI    r0,    [sp,   #2]
    BU        L493
L492
    MOVI      r0,    #10
    LDRSPI    r1,    [sp,   #0]
    MOVI      r2,    #160
    ORR       r1,    r2
    LDRSPI    r2,    [sp,   #3]
    BL        L111
```

```
INCSP    #4
POP
```

```
PROC genpref
L110
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    MOVI     r0,    #8
    LDRSPI   r1,    [sp,   #0]
    LDRI     r2,    [r7,   #23]
    BL       L111
    LDRI     r0,    [r7,   #23]
    LDRSPI   r1,    [sp,   #1]
    LDRI     r2,    [r7,   #22]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    LDRI     r0,    [r7,   #23]
    ADDI     r0,    #1
    STRI     r0,    [r7,   #23]
    INCSP    #2
    POP
```

```
PROC gen
L111
    PUSH
    DECSP    #3
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    STRSPI   r2,    [sp,   #2]
    MOVI     r0,    #168
    LDRR     r0,    [r7,   r0]
    ADDI     r0,    #1
    MOVI     r1,    #168
    STRR     r0,    [r7,   r1]
    LDRSPI   r1,    [sp,   #1]
    LSLI     r1,    r1,    #16
    LDRSPI   r2,    [sp,   #2]
    ORR      r1,    r2
    LDRSPI   r2,    [sp,   #0]
    LSLI     r2,    r2,    #28
    ORR      r1,    r2
    MOVI     r0,    #152
    LDRR     r0,    [r7,   r0]
    MOVI     r2,    #148
    LDRR     r2,    [r7,   r2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    MOVI     r0,    #152
    LDRR     r0,    [r7,   r0]
    ADDI     r0,    #1
    MOVI     r1,    #152
    STRR     r0,    [r7,   r1]
    LDRPCI   r0,    C15
    MOVI     r1,    #152
    LDRR     r1,    [r7,   r1]
    SUBR     r0,    r1,    r0
    BNE      L494
    ADDPCI   r0,    S231
    BL       L48
L494
    INCSP    #3
    POP
```

```
FUNC getlabel
L112
    PUSH
    MOVI      r0,    #125
    LSLI      r0,    r0,    #3
    MOVI      r1,    #144
    LDRR      r1,    [r7,   r1]
    SUBR      r0,    r1,    r0
    BGE       L496
    MOVI      r0,    #144
    LDRR      r0,    [r7,   r0]
    ADDI      r0,    #1
    MOVI      r1,    #144
    STRR      r0,    [r7,   r1]
    BU        L495
L496
    ADDPCI    r0,    S237
    BL        L48
L495
    MOVI      r0,    #144
    LDRR      r0,    [r7,   r0]
    POP
```

```
PROC setlab
L113
    PUSH
    DECSP    #1
    STRSPI   r0,   [sp,   #0]
    LDRSPI   r0,   [sp,   #0]
    MOVI     r1,   #168
    LDRR     r1,   [r7,   r1]
    MOVI     r2,   #140
    LDRR     r2,   [r7,   r2]
    LSLI     r0,   r0,    #2
    STRR     r1,   [r2,   r0]
    MOVI     r0,   #7
    MOVI     r1,   #0
    LDRSPI   r2,   [sp,   #0]
    BL       L111
    INCSP    #1
    POP
```

```
PROC genentry
L114
    PUSH
    MOVI      r0,    #152
    LDRR      r0,    [r7,   r0]
    MOVI      r1,    #160
    STRR      r0,    [r7,   r1]
    MOVI      r0,    #128
    LDRR      r0,    [r7,   r0]
    MOVI      r1,    #168
    LDRR      r1,    [r7,   r1]
    MOVI      r2,    #140
    LDRR      r2,    [r7,   r2]
    LSLI      r0,    r0,    #2
    STRR      r1,    [r2,   r0]
    MOVI      r0,    #11
    MOVI      r1,    #0
    MOVI      r2,    #128
    LDRR      r2,    [r7,   r2]
    BL        L111
    POP
```

```
PROC genexit
L115
    PUSH
    MOVI      r0,    #160
    LDRR      r0,    [r7,   r0]
    MOVI      r1,    #136
    LDRR      r1,    [r7,   r1]
    BL        L121
    MOVI      r0,    #12
    MOVI      r1,    #136
    LDRR      r1,    [r7,   r1]
    MOVI      r2,    #0
    BL        L111
    MOVI      r0,    #75
    LSLI      r0,    r0,    #2
    BL        L118
    POP
```

```
PROC initbuffer
L116
    PUSH
    MOVI     r0,    #0
    MOVI     r1,    #168
    STRR     r0,    [r7,   r1]
    MOVI     r0,    #0
    MOVI     r1,    #156
    STRR     r0,    [r7,   r1]
    MOVI     r0,    #0
    STRI     r0,    [r7,   #23]
    MOVI     r0,    #0
    STRI     r0,    [r7,   #24]
    MOVI     r0,    #0
    STRI     r0,    [r7,   #26]
    MOVI     r0,    #0
    STRI     r0,    [r7,   #27]
    MOVI     r0,    #0
    MOVI     r1,    #152
    STRR     r0,    [r7,   r1]
    MOVI     r0,    #0
    MOVI     r1,    #164
    STRR     r0,    [r7,   r1]
    POP
```

```
PROC startblock
L117
    PUSH
    MOVI      r0,    #180
    LDRR      r0,    [r7,   r0]
    ADDI      r0,    #0
    BNE       L497
    MOVI      r0,    #168
    LDRR      r0,    [r7,   r0]
    MOVI      r1,    #156
    STRR      r0,    [r7,   r1]
    LDRI      r0,    [r7,   #23]
    STRI      r0,    [r7,   #24]
    LDRI      r0,    [r7,   #26]
    STRI      r0,    [r7,   #27]
    MOVI      r0,    #152
    LDRR      r0,    [r7,   r0]
    MOVI      r1,    #164
    STRR      r0,    [r7,   r1]
    MOVI      r0,    #2
    MOVI      r1,    #0
    MOVI      r2,    #0
    BL        L111
    MOVI      r0,    #1
    NEGR      r0,    r0
    MOVI      r1,    #180
    STRR      r0,    [r7,   r1]
L497
    POP
```

```
PROC endblock
L118
   PUSH
   DECSP    #4
   STRSPI   r0,    [sp,   #0]
   MOVI     r0,    #156
   LDRR     r0,    [r7,   r0]
   MOVI     r1,    #168
   LDRR     r1,    [r7,   r1]
   SUBR     r0,    r1,    r0
   STRSPI   r0,    [sp,   #1]
   LDRI     r0,    [r7,   #24]
   LDRI     r1,    [r7,   #23]
   SUBR     r0,    r1,    r0
   STRSPI   r0,    [sp,   #2]
   LDRI     r0,    [r7,   #27]
   LDRI     r1,    [r7,   #26]
   SUBR     r0,    r1,    r0
   STRSPI   r0,    [sp,   #3]
   LDRSPI   r0,    [sp,   #3]
   LDRSPI   r1,    [sp,   #2]
   ADDR     r0,    r0,    r1
   LSLI     r0,    r0,    #1
   LDRSPI   r1,    [sp,   #1]
   ADDR     r0,    r0,    r1
   LDRSPI   r1,    [sp,   #0]
   SUBR     r0,    r1,    r0
   ASRI     r0,    r0,    #31
   MOVI     r1,    #180
   LDRR     r1,    [r7,   r1]
   ANDR     r0,    r1
   BEQ      L498
   MOVI     r0,    #164
   LDRR     r0,    [r7,   r0]
   LDRSPI   r1,    [sp,   #1]
   BL       L121
   MOVI     r0,    #164
   LDRR     r0,    [r7,   r0]
   LDRSPI   r1,    [sp,   #2]
   LSLI     r1,    r1,    #8
   LDRSPI   r2,    [sp,   #3]
   ORR      r1,    r2
   BL       L123
   MOVI     r0,    #3
   MOVI     r1,    #0
   MOVI     r2,    #0
   BL       L111
   MOVI     r0,    #0
```

```
    MOVI      r1,    #180
    STRR      r0,    [r7,   r1]
L498
    INCSP     #4
    POP
```

```
PROC cb_setflag
L119
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    LDRSPI   r1,    [sp,   #1]
    LSLI     r1,    r1,    #28
    MOVI     r2,    #148
    LDRR     r2,    [r7,   r2]
    LDRSPI   r3,    [sp,   #0]
    LSLI     r3,    r3,    #2
    LDRR     r2,    [r2,   r3]
    LDRPCI   r3,    C16
    ANDR     r2,    r3
    ORR      r1,    r2
    LDRSPI   r0,    [sp,   #0]
    MOVI     r2,    #148
    LDRR     r2,    [r7,   r2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    INCSP    #2
    POP
```

```
FUNC cb_flag
L120
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,   #0]
    MOVI     r0,    #148
    LDRR     r0,    [r7,   r0]
    LDRSPI   r1,    [sp,   #0]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    LSRI     r0,    r0,    #28
    INCSP    #1
    POP
```

```
PROC cb_sethigh
L121
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,   #0]
    STRSPI   r1,    [sp,   #1]
    LDRSPI   r1,    [sp,   #1]
    LSLI     r1,    r1,    #16
    MOVI     r2,    #148
    LDRR     r2,    [r7,   r2]
    LDRSPI   r3,    [sp,   #0]
    LSLI     r3,    r3,    #2
    LDRR     r2,    [r2,   r3]
    LDRPCI   r3,    C17
    ANDR     r2,    r3
    ORR      r1,    r2
    LDRSPI   r0,    [sp,   #0]
    MOVI     r2,    #148
    LDRR     r2,    [r7,   r2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
    INCSP    #2
    POP
```

```
FUNC cb_high
L122
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,   #0]
    MOVI     r0,    #148
    LDRR     r0,    [r7,   r0]
    LDRSPI   r1,    [sp,   #0]
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    LSRI     r0,    r0,    #16
    LDRPCI   r1,    C18
    ANDR     r0,    r1
    INCSP    #1
    POP
```

```
PROC cb_setlow
L123
    PUSH
    DECSP   #2
    STRSPI  r0,   [sp,   #0]
    STRSPI  r1,   [sp,   #1]
    MOVI    r1,   #148
    LDRR    r1,   [r7,   r1]
    LDRSPI  r2,   [sp,   #0]
    LSLI    r2,   r2,    #2
    LDRR    r1,   [r1,   r2]
    LDRPCI  r2,   C19
    ANDR    r1,   r2
    LDRSPI  r2,   [sp,   #1]
    ORR     r1,   r2
    LDRSPI  r0,   [sp,   #0]
    MOVI    r2,   #148
    LDRR    r2,   [r7,   r2]
    LSLI    r0,   r0,    #2
    STRR    r1,   [r2,   r0]
    INCSP   #2
    POP
```

```
FUNC cb_low
L124
  PUSH
  DECSP    #1
  STRSPI   r0,    [sp,   #0]
  MOVI     r0,    #148
  LDRR     r0,    [r7,   r0]
  LDRSPI   r1,    [sp,   #0]
  LSLI     r1,    r1,    #2
  LDRR     r0,    [r0,   r1]
  LDRPCI   r1,    C20
  ANDR     r0,    r1
  INCSP    #1
  POP
  ADDI     r0,    #0
C15
  DCD      10000
C16
  DCD      268435455
C17
  DCD      -268369921
C18
  DCD      4095
C19
  DCD      -65536
C20
  DCD      65535
S231
  DCD      1685021460
  DCD      1969365093
  DCD      1919247974
  DCD      1702260512
  DCD      1869375090
  DCD      119
S237
  DCD      1869575183
  DCD      1851878688
  DCD      1634476153
  DCD      1936483682
```

```
FUNC cbrlength
L125
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,   #0]
    LDRSPI   r0,    [sp,   #0]
    SUBI     r0,    #128
    ASRI     r0,    r0,    #31
    LDRSPI   r1,    [sp,   #0]
    MOVI     r2,    #127
    NEGR     r2,    r2
    SUBR     r1,    r2,    r1
    ASRI     r1,    r1,    #31
    ANDR     r0,    r1
    BEQ      L500
    MOVI     r0,    #1
    BU       L499
L500
    LDRSPI   r0,    [sp,   #0]
    SUBI     r0,    #1
    BL       L126
    ADDI     r0,    #1
L499
    INCSP    #1
    POP
```

```
FUNC brlength
L126
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,   #0]
    LDRPCI   r0,    C21
    LDRSPI   r1,    [sp,   #0]
    SUBR     r0,    r1,    r0
    ASRI     r0,    r0,    #31
    LDRSPI   r1,    [sp,   #0]
    LDRPCI   r2,    C22
    SUBR     r1,    r2,    r1
    ASRI     r1,    r1,    #31
    ANDR     r0,    r1
    BEQ      L502
    MOVI     r0,    #1
    BU       L501
L502
    MOVI     r0,    #2
L501
    INCSP    #1
    POP
```

```
FUNC cb_entrylen
L127
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,    #0]
    LDRSPI   r0,    [sp,    #0]
    BL       L122
    BNE      L504
    MOVI     r0,    #1
    BU       L503
L504
    MOVI     r0,    #2
L503
    INCSP    #1
    POP
```

```
PROC expand
L128
    PUSH
    DECSP    #5
    MOVI     r0,    #0
    STRSPI   r0,    [sp,   #0]
L506
    MOVI     r0,    #152
    LDRR     r0,    [r7,   r0]
    LDRSPI   r1,    [sp,   #0]
    SUBR     r0,    r1,    r0
    BLT      #1
    BU       L505
    LDRSPI   r0,    [sp,   #0]
    BL       L120
    STRSPI   r0,    [sp,   #3]
    LDRSPI   r0,    [sp,   #3]
    SUBI     r0,    #11
    BNE      L508
    LDRSPI   r0,    [sp,   #0]
    BL       L124
    LSLI     r0,    r0,    #2
    MOVI     r1,    #140
    LDRR     r1,    [r7,   r1]
    LDRR     r0,    [r1,   r0]
    MOVI     r1,    #168
    LDRR     r1,    [r7,   r1]
    SUBR     r0,    r0,    r1
    BEQ      L509
    LDRSPI   r0,    [sp,   #0]
    BL       L124
    MOVI     r1,    #168
    LDRR     r1,    [r7,   r1]
    MOVI     r2,    #140
    LDRR     r2,    [r7,   r2]
    LSLI     r0,    r0,    #2
    STRR     r1,    [r2,   r0]
L509
    LDRSPI   r0,    [sp,   #0]
    BL       L127
    STRSPI   r0,    [sp,   #2]
    LDRSPI   r0,    [sp,   #2]
    MOVI     r1,    #168
    LDRR     r1,    [r7,   r1]
    ADDR     r0,    r0,    r1
    MOVI     r1,    #168
    STRR     r0,    [r7,   r1]
    BU       L507
```

```
L508
    LDRSPI   r0,   [sp,   #3]
    SUBI     r0,   #12
    BNE      L510
    LDRSPI   r0,   [sp,   #2]
    MOVI     r1,   #168
    LDRR     r1,   [r7,   r1]
    ADDR     r0,   r0,   r1
    MOVI     r1,   #168
    STRR     r0,   [r7,   r1]
    BU       L507
L510
    LDRSPI   r0,   [sp,   #3]
    SUBI     r0,   #1
    BNE      L511
    MOVI     r0,   #168
    LDRR     r0,   [r7,   r0]
    ADDI     r0,   #1
    MOVI     r1,   #168
    STRR     r0,   [r7,   r1]
    BU       L507
L511
    LDRSPI   r0,   [sp,   #3]
    SUBI     r0,   #2
    BNE      L512
    MOVI     r0,   #168
    LDRR     r0,   [r7,   r0]
    MOVI     r1,   #156
    STRR     r0,   [r7,   r1]
    LDRSPI   r0,   [sp,   #0]
    BL       L122
    MOVI     r1,   #168
    LDRR     r1,   [r7,   r1]
    ADDR     r0,   r0,   r1
    MOVI     r1,   #172
    STRR     r0,   [r7,   r1]
    LDRSPI   r0,   [sp,   #0]
    BL       L124
    LSRI     r0,   r0,   #8
    LSLI     r0,   r0,   #1
    MOVI     r1,   #172
    LDRR     r1,   [r7,   r1]
    ADDR     r0,   r0,   r1
    MOVI     r1,   #176
    STRR     r0,   [r7,   r1]
    LDRSPI   r0,   [sp,   #0]
    MOVI     r1,   #164
    STRR     r0,   [r7,   r1]
    BU       L507
```

```
L512
    LDRSPI   r0,   [sp,   #3]
    SUBI     r0,   #3
    BNE      L513
    MOVI     r0,   #1
    MOVI     r1,   #168
    LDRR     r1,   [r7,   r1]
    ANDR     r0,   r1
    BEQ      L514
    MOVI     r0,   #168
    LDRR     r0,   [r7,   r0]
    ADDI     r0,   #1
    MOVI     r1,   #168
    STRR     r0,   [r7,   r1]
L514
    MOVI     r0,   #164
    LDRR     r0,   [r7,   r0]
    BL       L122
    MOVI     r1,   #156
    LDRR     r1,   [r7,   r1]
    MOVI     r2,   #168
    LDRR     r2,   [r7,   r2]
    SUBR     r1,   r2,   r1
    SUBR     r0,   r1,   r0
    BEQ      L515
    MOVI     r0,   #164
    LDRR     r0,   [r7,   r0]
    MOVI     r1,   #156
    LDRR     r1,   [r7,   r1]
    MOVI     r2,   #168
    LDRR     r2,   [r7,   r2]
    SUBR     r1,   r2,   r1
    BL       L121
L515
    MOVI     r0,   #164
    LDRR     r0,   [r7,   r0]
    BL       L124
    MOVI     r1,   #255
    ANDR     r0,   r1
    STRSPI   r0,   [sp,   #4]
    MOVI     r0,   #164
    LDRR     r0,   [r7,   r0]
    BL       L124
    LSRI     r0,   r0,   #8
    LDRSPI   r1,   [sp,   #4]
    ADDR     r0,   r0,   r1
    LSLI     r0,   r0,   #1
    MOVI     r1,   #168
    LDRR     r1,   [r7,   r1]
```

```
        ADDR     r0,   r0,   r1
        MOVI     r1,   #168
        STRR     r0,   [r7,   r1]
        BU       L507
L513
        LDRSPI   r0,   [sp,   #3]
        SUBI     r0,   #7
        BNE      L516
        LDRSPI   r0,   [sp,   #0]
        BL       L124
        LSLI     r0,   r0,   #2
        MOVI     r1,   #140
        LDRR     r1,   [r7,   r1]
        LDRR     r0,   [r1,   r0]
        MOVI     r1,   #168
        LDRR     r1,   [r7,   r1]
        SUBR     r0,   r0,   r1
        BEQ      L507
        LDRSPI   r0,   [sp,   #0]
        BL       L124
        MOVI     r1,   #168
        LDRR     r1,   [r7,   r1]
        MOVI     r2,   #140
        LDRR     r2,   [r7,   r2]
        LSLI     r0,   r0,   #2
        STRR     r1,   [r2,   r0]
        BU       L507
L516
        LDRSPI   r0,   [sp,   #3]
        SUBI     r0,   #4
        BNE      L517
        LDRSPI   r0,   [sp,   #0]
        BL       L124
        LSLI     r0,   r0,   #2
        MOVI     r1,   #140
        LDRR     r1,   [r7,   r1]
        LDRR     r0,   [r1,   r0]
        MOVI     r1,   #168
        LDRR     r1,   [r7,   r1]
        ADDI     r1,   #1
        SUBR     r0,   r0,   r1
        STRSPI   r0,   [sp,   #1]
        LDRSPI   r0,   [sp,   #1]
        BL       L125
        MOVI     r1,   #168
        LDRR     r1,   [r7,   r1]
        ADDR     r0,   r0,   r1
        MOVI     r1,   #168
        STRR     r0,   [r7,   r1]
```

```
        BU          L507
L517
    LDRSPI   r0,    [sp,   #3]
    SUBI       r0,    #5
    BNE        L518
    LDRSPI   r0,    [sp,   #0]
    BL          L124
    LSLI        r0,    r0,    #2
    MOVI       r1,    #140
    LDRR       r1,    [r7,   r1]
    LDRR       r0,    [r1,   r0]
    MOVI       r1,    #168
    LDRR       r1,    [r7,   r1]
    ADDI       r1,    #1
    SUBR       r0,    r0,    r1
    STRSPI    r0,    [sp,   #1]
    LDRSPI   r0,    [sp,   #1]
    BL          L126
    MOVI       r1,    #168
    LDRR       r1,    [r7,   r1]
    ADDR       r0,    r0,    r1
    MOVI       r1,    #168
    STRR       r0,    [r7,   r1]
    BU          L507
L518
    LDRSPI   r0,    [sp,   #3]
    SUBI       r0,    #13
    BNE        L519
    LDRSPI   r0,    [sp,   #0]
    BL          L124
    LSLI        r0,    r0,    #2
    MOVI       r1,    #140
    LDRR       r1,    [r7,   r1]
    LDRR       r0,    [r1,   r0]
    LDRSPI   r1,    [sp,   #2]
    ADDR       r0,    r0,    r1
    MOVI       r1,    #168
    LDRR       r1,    [r7,   r1]
    ADDI       r1,    #1
    SUBR       r0,    r0,    r1
    STRSPI    r0,    [sp,   #1]
    LDRSPI   r0,    [sp,   #1]
    BL          L126
    MOVI       r1,    #168
    LDRR       r1,    [r7,   r1]
    ADDR       r0,    r0,    r1
    MOVI       r1,    #168
    STRR       r0,    [r7,   r1]
    BU          L507
```

```
L519
   LDRSPI   r0,   [sp,   #3]
   SUBI     r0,   #6
   BNE      L520
   MOVI     r0,   #168
   LDRR     r0,   [r7,   r0]
   ADDI     r0,   #2
   MOVI     r1,   #168
   STRR     r0,   [r7,   r1]
   BU       L507
L520
   LDRSPI   r0,   [sp,   #3]
   SUBI     r0,   #8
   BNE      L521
   MOVI     r0,   #168
   LDRR     r0,   [r7,   r0]
   ADDI     r0,   #3
   MOVI     r1,   #168
   STRR     r0,   [r7,   r1]
   BU       L507
L521
   LDRSPI   r0,   [sp,   #3]
   SUBI     r0,   #10
   BEQ      #1
   MOVI     r0,   #1
   SUBI     r0,   #1
   LDRSPI   r1,   [sp,   #3]
   SUBI     r1,   #9
   BEQ      #1
   MOVI     r1,   #1
   SUBI     r1,   #1
   ORR      r0,   r1
   BEQ      L522
   MOVI     r0,   #168
   LDRR     r0,   [r7,   r0]
   ADDI     r0,   #1
   MOVI     r1,   #168
   STRR     r0,   [r7,   r1]
   BU       L507
L522
   ADDPCI   r0,   S241
   BL       L12
L507
   LDRSPI   r0,   [sp,   #0]
   ADDI     r0,   #1
   STRSPI   r0,   [sp,   #0]
   BU       L506
L505
   INCSP    #5
```

```
    POP
    ADDI      r0,   #0
C21
    DCD       1023
C22
    DCD       -1023
S241
    DCD       1685021457
    DCD       1969365093
    DCD       1919247974
    DCD       1920099616
    DCD       29295
```

```
PROC flushbuffer
L129
   PUSH
   DECSP    #6
   MOVI     r0,   #0
   MOVI     r1,   #168
   STRR     r0,   [r7,   r1]
   MOVI     r0,   #0
   STRSPI   r0,   [sp,   #1]
   BL       L128
L524
   LDRSPI   r0,   [sp,   #1]
   MOVI     r1,   #168
   LDRR     r1,   [r7,   r1]
   SUBR     r0,   r1,   r0
   BEQ      L523
   MOVI     r0,   #168
   LDRR     r0,   [r7,   r0]
   STRSPI   r0,   [sp,   #1]
   MOVI     r0,   #0
   MOVI     r1,   #168
   STRR     r0,   [r7,   r1]
   BL       L128
   BU       L524
L523
   BL       L141
   MOVI     r0,   #0
   STRI     r0,   [r7,   #24]
   MOVI     r0,   #0
   STRI     r0,   [r7,   #27]
   MOVI     r0,   #0
   STRSPI   r0,   [sp,   #0]
   MOVI     r0,   #0
   MOVI     r1,   #168
   STRR     r0,   [r7,   r1]
L526
   MOVI     r0,   #152
   LDRR     r0,   [r7,   r0]
   LDRSPI   r1,   [sp,   #0]
   SUBR     r0,   r1,   r0
   BLT      #1
   BU       L525
   LDRSPI   r0,   [sp,   #0]
   BL       L120
   STRSPI   r0,   [sp,   #4]
   LDRSPI   r0,   [sp,   #4]
   SUBI     r0,   #11
   BNE      L528
```

```
        MOVI    r0,   #181
        LSLI    r0,   r0,   #8
        BL      L140
        LDRSPI  r0,   [sp,  #0]
        BL      L127
        STRSPI  r0,   [sp,  #3]
        LDRSPI  r0,   [sp,  #3]
        SUBI    r0,   #1
        BEQ     L529
        LDRSPI  r0,   [sp,  #0]
        BL      L122
        LDRPCI  r1,   C23
        ORR     r0,   r1
        BL      L140
L529
        LDRSPI  r0,   [sp,  #3]
        MOVI    r1,   #168
        LDRR    r1,   [r7,  r1]
        ADDR    r0,   r0,   r1
        MOVI    r1,   #168
        STRR    r0,   [r7,  r1]
        BU      L527
L528
        LDRSPI  r0,   [sp,  #4]
        SUBI    r0,   #12
        BNE     L530
        LDRSPI  r0,   [sp,  #3]
        SUBI    r0,   #1
        BEQ     L531
        LDRSPI  r0,   [sp,  #0]
        BL      L122
        MOVI    r1,   #11
        LSLI    r1,   r1,   #12
        ORR     r0,   r1
        BL      L140
L531
        LDRSPI  r0,   [sp,  #3]
        MOVI    r1,   #168
        LDRR    r1,   [r7,  r1]
        ADDR    r0,   r0,   r1
        MOVI    r1,   #168
        STRR    r0,   [r7,  r1]
        MOVI    r0,   #189
        LSLI    r0,   r0,   #8
        BL      L140
        BU      L527
L530
        LDRSPI  r0,   [sp,  #4]
        SUBI    r0,   #1
```

```
      BNE       L532
      LDRSPI    r0,   [sp,  #0]
      BL        L124
      BL        L140
      MOVI      r0,   #168
      LDRR      r0,   [r7,  r0]
      ADDI      r0,   #1
      MOVI      r1,   #168
      STRR      r0,   [r7,  r1]
      BU        L527
L532
      LDRSPI    r0,   [sp,  #4]
      SUBI      r0,   #2
      BNE       L533
      LDRSPI    r0,   [sp,  #0]
      BL        L122
      MOVI      r1,   #168
      LDRR      r1,   [r7,  r1]
      ADDR      r0,   r0,   r1
      MOVI      r1,   #172
      STRR      r0,   [r7,  r1]
      LDRSPI    r0,   [sp,  #0]
      BL        L124
      LSRI      r0,   r0,   #8
      LSLI      r0,   r0,   #1
      MOVI      r1,   #172
      LDRR      r1,   [r7,  r1]
      ADDR      r0,   r0,   r1
      MOVI      r1,   #176
      STRR      r0,   [r7,  r1]
      LDRSPI    r0,   [sp,  #0]
      MOVI      r1,   #164
      STRR      r0,   [r7,  r1]
      BU        L527
L533
      LDRSPI    r0,   [sp,  #4]
      SUBI      r0,   #3
      BNE       L534
      MOVI      r0,   #1
      MOVI      r1,   #168
      LDRR      r1,   [r7,  r1]
      ANDR      r0,   r1
      BEQ       L535
      MOVI      r0,   #168
      LDRR      r0,   [r7,  r0]
      ADDI      r0,   #1
      MOVI      r1,   #168
      STRR      r0,   [r7,  r1]
      MOVI      r0,   #6
```

```
        MOVI     r1,    #0
        MOVI     r2,    #0
        BL       L137
L535
        MOVI     r0,    #164
        LDRR     r0,    [r7,  r0]
        BL       L124
        LSRI     r0,    r0,    #8
        BL       L138
        MOVI     r0,    #164
        LDRR     r0,    [r7,  r0]
        BL       L124
        MOVI     r1,    #255
        ANDR     r0,    r1
        BL       L139
        MOVI     r0,    #164
        LDRR     r0,    [r7,  r0]
        BL       L124
        MOVI     r1,    #255
        ANDR     r0,    r1
        STRSPI   r0,    [sp,  #5]
        MOVI     r0,    #164
        LDRR     r0,    [r7,  r0]
        BL       L124
        LSRI     r0,    r0,    #8
        LDRSPI   r1,    [sp,  #5]
        ADDR     r0,    r0,    r1
        LSLI     r0,    r0,    #1
        MOVI     r1,    #168
        LDRR     r1,    [r7,  r1]
        ADDR     r0,    r0,    r1
        MOVI     r1,    #168
        STRR     r0,    [r7,  r1]
        BU       L527
L534
        LDRSPI   r0,    [sp,  #4]
        SUBI     r0,    #7
        BNE      #1
        BU       L527
        LDRSPI   r0,    [sp,  #4]
        SUBI     r0,    #4
        BNE      L536
        LDRSPI   r0,    [sp,  #0]
        BL       L124
        LSLI     r0,    r0,    #2
        MOVI     r1,    #140
        LDRR     r1,    [r7,  r1]
        LDRR     r0,    [r1,  r0]
        MOVI     r1,    #168
```

```
        LDRR    r1,   [r7,  r1]
        ADDI    r1,   #1
        SUBR    r0,   r0,   r1
        STRSPI  r0,   [sp,  #2]
        LDRSPI  r0,   [sp,  #0]
        BL      L122
        LDRSPI  r1,   [sp,  #2]
        BL      L130
        LDRSPI  r0,   [sp,  #2]
        BL      L125
        MOVI    r1,   #168
        LDRR    r1,   [r7,  r1]
        ADDR    r0,   r0,   r1
        MOVI    r1,   #168
        STRR    r0,   [r7,  r1]
        BU      L527
L536
        LDRSPI  r0,   [sp,  #4]
        SUBI    r0,   #5
        BNE     L537
        LDRSPI  r0,   [sp,  #0]
        BL      L124
        LSLI    r0,   r0,   #2
        MOVI    r1,   #140
        LDRR    r1,   [r7,  r1]
        LDRR    r0,   [r1,  r0]
        MOVI    r1,   #168
        LDRR    r1,   [r7,  r1]
        ADDI    r1,   #1
        SUBR    r0,   r0,   r1
        STRSPI  r0,   [sp,  #2]
        LDRSPI  r0,   [sp,  #2]
        BL      L132
        LDRSPI  r0,   [sp,  #2]
        BL      L126
        MOVI    r1,   #168
        LDRR    r1,   [r7,  r1]
        ADDR    r0,   r0,   r1
        MOVI    r1,   #168
        STRR    r0,   [r7,  r1]
        BU      L527
L537
        LDRSPI  r0,   [sp,  #4]
        SUBI    r0,   #13
        BNE     L538
        LDRSPI  r0,   [sp,  #0]
        BL      L124
        LSLI    r0,   r0,   #2
        MOVI    r1,   #140
```

```
        LDRR     r1,    [r7,   r1]
        LDRR     r0,    [r1,   r0]
        LDRSPI   r1,    [sp,   #3]
        ADDR     r0,    r0,    r1
        MOVI     r1,    #168
        LDRR     r1,    [r7,   r1]
        ADDI     r1,    #1
        SUBR     r0,    r0,    r1
        STRSPI   r0,    [sp,   #2]
        LDRSPI   r0,    [sp,   #2]
        BL       L132
        LDRSPI   r0,    [sp,   #2]
        BL       L126
        MOVI     r1,    #168
        LDRR     r1,    [r7,   r1]
        ADDR     r0,    r0,    r1
        MOVI     r1,    #168
        STRR     r0,    [r7,   r1]
        BU       L527
L538
        LDRSPI   r0,    [sp,   #4]
        SUBI     r0,    #6
        BNE      L539
        LDRSPI   r0,    [sp,   #0]
        BL       L124
        LSLI     r0,    r0,    #2
        MOVI     r1,    #140
        LDRR     r1,    [r7,   r1]
        LDRR     r0,    [r1,   r0]
        MOVI     r1,    #168
        LDRR     r1,    [r7,   r1]
        ADDI     r1,    #2
        SUBR     r0,    r0,    r1
        STRSPI   r0,    [sp,   #2]
        LDRSPI   r0,    [sp,   #2]
        BL       L133
        MOVI     r0,    #168
        LDRR     r0,    [r7,   r0]
        ADDI     r0,    #2
        MOVI     r1,    #168
        STRR     r0,    [r7,   r1]
        BU       L527
L539
        LDRSPI   r0,    [sp,   #4]
        SUBI     r0,    #8
        BNE      L540
        LDRSPI   r0,    [sp,   #0]
        BL       L124
        LDRI     r1,    [r7,   #24]
```

```
        SUBR    r0,   r0,   r1
        MOVI    r1,   #172
        LDRR    r1,   [r7,  r1]
        LSRI    r1,   r1,   #1
        ADDR    r0,   r0,   r1
        MOVI    r1,   #168
        LDRR    r1,   [r7,  r1]
        ADDI    r1,   #1
        LSRI    r1,   r1,   #1
        SUBR    r0,   r0,   r1
        STRSPI  r0,   [sp,  #2]
        LDRSPI  r0,   [sp,  #0]
        BL      L124
        STRSPI  r0,   [sp,  #5]
        LDRSPI  r0,   [sp,  #0]
        BL      L122
        LDRSPI  r1,   [sp,  #2]
        LDRSPI  r2,   [sp,  #5]
        BL      L134
        MOVI    r0,   #168
        LDRR    r0,   [r7,  r0]
        ADDI    r0,   #3
        MOVI    r1,   #168
        STRR    r0,   [r7,  r1]
        BU      L527
L540
        LDRSPI  r0,   [sp,  #4]
        SUBI    r0,   #9
        BNE     L541
        LDRSPI  r0,   [sp,  #0]
        BL      L124
        LDRI    r1,   [r7,  #24]
        SUBR    r0,   r0,   r1
        MOVI    r1,   #172
        LDRR    r1,   [r7,  r1]
        LSRI    r1,   r1,   #1
        ADDR    r0,   r0,   r1
        MOVI    r1,   #168
        LDRR    r1,   [r7,  r1]
        ADDI    r1,   #1
        LSRI    r1,   r1,   #1
        SUBR    r0,   r0,   r1
        STRSPI  r0,   [sp,  #2]
        LDRSPI  r0,   [sp,  #0]
        BL      L122
        LDRSPI  r1,   [sp,  #2]
        BL      L135
        MOVI    r0,   #168
        LDRR    r0,   [r7,  r0]
```

```
        ADDI      r0,    #1
        MOVI      r1,    #168
        STRR      r0,    [r7,   r1]
        BU        L527
L541
        LDRSPI    r0,    [sp,   #4]
        SUBI      r0,    #10
        BNE       L527
        LDRSPI    r0,    [sp,   #0]
        BL        L124
        LDRI      r1,    [r7,   #27]
        SUBR      r0,    r0,    r1
        MOVI      r1,    #176
        LDRR      r1,    [r7,   r1]
        LSRI      r1,    r1,    #1
        ADDR      r0,    r0,    r1
        MOVI      r1,    #168
        LDRR      r1,    [r7,   r1]
        ADDI      r1,    #1
        LSRI      r1,    r1,    #1
        SUBR      r0,    r0,    r1
        STRSPI    r0,    [sp,   #2]
        LDRSPI    r0,    [sp,   #0]
        BL        L122
        LDRSPI    r1,    [sp,   #2]
        BL        L135
        MOVI      r0,    #168
        LDRR      r0,    [r7,   r0]
        ADDI      r0,    #1
        MOVI      r1,    #168
        STRR      r0,    [r7,   r1]
L527
        LDRSPI    r0,    [sp,   #0]
        ADDI      r0,    #1
        STRSPI    r0,    [sp,   #0]
        BU        L526
L525
        MOVI      r0,    #168
        LDRR      r0,    [r7,   r0]
        STRI      r0,    [r7,   #30]
        INCSP     #6
        POP
        ADDI      r0,    #0
C23
        DCD       45184
```

```
PROC outcbr
L130
   PUSH
   DECSP    #3
   STRSPI   r0,   [sp,   #0]
   STRSPI   r1,   [sp,   #1]
   LDRSPI   r0,   [sp,   #1]
   SUBI     r0,   #128
   ASRI     r0,   r0,   #31
   LDRSPI   r1,   [sp,   #1]
   MOVI     r2,   #127
   NEGR     r2,   r2
   SUBR     r1,   r2,   r1
   ASRI     r1,   r1,   #31
   ANDR     r0,   r1
   BEQ      L543
   MOVI     r0,   #255
   LDRSPI   r1,   [sp,   #1]
   ANDR     r0,   r1
   LDRSPI   r1,   [sp,   #0]
   LSLI     r1,   r1,   #8
   ORR      r0,   r1
   BL       L140
   BU       L542
L543
   LDRSPI   r0,   [sp,   #1]
   BL       L126
   STRSPI   r0,   [sp,   #2]
   LDRSPI   r0,   [sp,   #0]
   BL       L131
   LSLI     r0,   r0,   #8
   LDRSPI   r1,   [sp,   #2]
   ORR      r0,   r1
   BL       L140
   LDRSPI   r0,   [sp,   #1]
   SUBI     r0,   #1
   BL       L132
L542
   INCSP    #3
   POP
```

```
FUNC invert
L131
    PUSH
    DECSP    #1
    STRSPI   r0,   [sp,   #0]
    LDRSPI   r0,   [sp,   #0]
    SUBI     r0,   #208
    BNE      L545
    MOVI     r0,   #209
    BU       L544
L545
    LDRSPI   r0,   [sp,   #0]
    SUBI     r0,   #209
    BNE      L546
    MOVI     r0,   #208
    BU       L544
L546
    LDRSPI   r0,   [sp,   #0]
    SUBI     r0,   #221
    BNE      L547
    MOVI     r0,   #218
    BU       L544
L547
    MOVI     r0,   #221
L544
    INCSP    #1
    POP
```

```
PROC outbr
L132
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,   #0]
    LDRPCI   r0,    C24
    LDRSPI   r1,    [sp,   #0]
    SUBR     r0,    r1,    r0
    ASRI     r0,    r0,    #31
    LDRSPI   r1,    [sp,   #0]
    LDRPCI   r2,    C25
    SUBR     r1,    r2,    r1
    ASRI     r1,    r1,    #31
    ANDR     r0,    r1
    BEQ      L549
    LDRPCI   r0,    C26
    LDRSPI   r1,    [sp,   #0]
    ANDR     r0,    r1
    MOVI     r1,    #7
    LSLI     r1,    r1,    #13
    ORR      r0,    r1
    BL       L140
    BU       L548
L549
    LDRSPI   r0,    [sp,   #0]
    BL       L133
L548
    INCSP    #1
    POP
```

```
PROC outcall
L133
   PUSH
   DECSP    #1
   STRSPI   r0,   [sp,   #0]
   LDRSPI   r0,   [sp,   #0]
   LSRI     r0,   r0,    #11
   LDRPCI   r1,   C26
   ANDR     r0,   r1
   MOVI     r1,   #15
   LSLI     r1,   r1,    #12
   ORR      r0,   r1
   BL       L140
   LDRPCI   r0,   C26
   LDRSPI   r1,   [sp,   #0]
   ANDR     r0,   r1
   MOVI     r1,   #31
   LSLI     r1,   r1,    #11
   ORR      r0,   r1
   BL       L140
   INCSP    #1
   POP
```

```
PROC outoffs
L134
    PUSH
    DECSP    #4
    STRSPI   r0,    [sp,    #0]
    STRSPI   r1,    [sp,    #1]
    STRSPI   r2,    [sp,    #2]
    MOVI     r0,    #1
    MOVI     r1,    #168
    LDRR     r1,    [r7,    r1]
    ANDR     r0,    r1
    BNE      L551
    MOVI     r0,    #168
    LDRR     r0,    [r7,    r0]
    ADDI     r0,    #2
    STRSPI   r0,    [sp,    #3]
    BU       L550
L551
    MOVI     r0,    #168
    LDRR     r0,    [r7,    r0]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,    #3]
L550
    MOVI     r1,    #140
    LDRR     r1,    [r7,    r1]
    LDRI     r2,    [r7,    #22]
    LDRSPI   r3,    [sp,    #2]
    LSLI     r3,    r3,     #2
    LDRR     r2,    [r2,    r3]
    LSLI     r2,    r2,     #2
    LDRR     r1,    [r1,    r2]
    LDRSPI   r2,    [sp,    #3]
    SUBR     r1,    r1,     r2
    LSLI     r1,    r1,     #1
    LDRSPI   r0,    [sp,    #2]
    LDRI     r2,    [r7,    #22]
    LSLI     r0,    r0,     #2
    STRR     r1,    [r2,    r0]
    LDRSPI   r0,    [sp,    #0]
    MOVI     r1,    #136
    ORR      r0,    r1
    LDRSPI   r1,    [sp,    #1]
    BL       L135
    MOVI     r0,    #20
    MOVI     r1,    #6
    MOVI     r2,    #0
    BL       L137
    MOVI     r0,    #12
```

```
LDRSPI    r1,    [sp,    #0]
LDRSPI    r2,    [sp,    #0]
MOVI      r3,    #6
BL        L136
INCSP     #4
POP
```

```
PROC outcref
L135
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,    #0]
    STRSPI   r1,    [sp,    #1]
    LDRSPI   r0,    [sp,    #0]
    LSLI     r0,    r0,     #8
    LDRSPI   r1,    [sp,    #1]
    ORR      r0,    r1
    BL       L140
    INCSP    #2
    POP
```

```
PROC out3
L136
   PUSH
   DECSP    #4
   STRSPI   r0,   [sp,   #0]
   STRSPI   r1,   [sp,   #1]
   STRSPI   r2,   [sp,   #2]
   STRSPI   r3,   [sp,   #3]
   LDRSPI   r0,   [sp,   #2]
   LSLI     r0,   r0,    #3
   LDRSPI   r1,   [sp,   #1]
   ORR      r0,   r1
   LDRSPI   r1,   [sp,   #3]
   LSLI     r1,   r1,    #6
   ORR      r0,   r1
   LDRSPI   r1,   [sp,   #0]
   LSLI     r1,   r1,    #9
   ORR      r0,   r1
   BL       L140
   INCSP    #4
   POP
```

```
PROC out2i
L137
   PUSH
   DECSP    #3
   STRSPI   r0,    [sp,   #0]
   STRSPI   r1,    [sp,   #1]
   STRSPI   r2,    [sp,   #2]
   LDRSPI   r0,    [sp,   #1]
   LSLI     r0,    r0,    #8
   LDRSPI   r1,    [sp,   #2]
   ORR      r0,    r1
   LDRSPI   r1,    [sp,   #0]
   LSLI     r1,    r1,    #11
   ORR      r0,    r1
   BL       L140
   INCSP    #3
   POP
```

```
PROC outconsts
L138
    PUSH
    DECSP    #2
    STRSPI   r0,   [sp,   #0]
    MOVI     r0,   #0
    STRSPI   r0,   [sp,   #1]
L553
    LDRSPI   r0,   [sp,   #0]
    LDRSPI   r1,   [sp,   #1]
    SUBR     r0,   r1,    r0
    BGE      L552
    LDRI     r0,   [r7,   #22]
    LDRSPI   r1,   [sp,   #1]
    LDRI     r2,   [r7,   #24]
    ADDR     r1,   r1,    r2
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    LDRPCI   r1,   C27
    ANDR     r0,   r1
    BL       L140
    LDRI     r0,   [r7,   #22]
    LDRSPI   r1,   [sp,   #1]
    LDRI     r2,   [r7,   #24]
    ADDR     r1,   r1,    r2
    LSLI     r1,   r1,    #2
    LDRR     r0,   [r0,   r1]
    LSRI     r0,   r0,    #16
    BL       L140
    LDRSPI   r0,   [sp,   #1]
    ADDI     r0,   #1
    STRSPI   r0,   [sp,   #1]
    BU       L553
L552
    LDRSPI   r0,   [sp,   #0]
    LDRI     r1,   [r7,   #24]
    ADDR     r0,   r0,    r1
    STRI     r0,   [r7,   #24]
    INCSP    #2
    POP
```

```
PROC outstrings
L139
    PUSH
    DECSP    #2
    STRSPI   r0,    [sp,   #0]
    MOVI     r0,    #0
    STRSPI   r0,    [sp,   #1]
L555
    LDRSPI   r0,    [sp,   #0]
    LDRSPI   r1,    [sp,   #1]
    SUBR     r0,    r1,    r0
    BGE      L554
    LDRI     r0,    [r7,   #25]
    LDRSPI   r1,    [sp,   #1]
    LDRI     r2,    [r7,   #27]
    ADDR     r1,    r1,    r2
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    LDRPCI   r1,    C27
    ANDR     r0,    r1
    BL       L140
    LDRI     r0,    [r7,   #25]
    LDRSPI   r1,    [sp,   #1]
    LDRI     r2,    [r7,   #27]
    ADDR     r1,    r1,    r2
    LSLI     r1,    r1,    #2
    LDRR     r0,    [r0,   r1]
    LSRI     r0,    r0,    #16
    BL       L140
    LDRSPI   r0,    [sp,   #1]
    ADDI     r0,    #1
    STRSPI   r0,    [sp,   #1]
    BU       L555
L554
    LDRSPI   r0,    [sp,   #0]
    LDRI     r1,    [r7,   #27]
    ADDR     r0,    r0,    r1
    STRI     r0,    [r7,   #27]
    INCSP    #2
    POP
```

```
PROC outbin
L140
    PUSH
    DECSP    #1
    STRSPI   r0,    [sp,   #0]
    MOVI     r0,    #1
    LSLI     r0,    r0,    #9
    BL       L3
    MOVI     r0,    #255
    LDRSPI   r1,    [sp,   #0]
    ANDR     r0,    r1
    BL       L4
    LDRSPI   r0,    [sp,   #0]
    LSRI     r0,    r0,    #8
    BL       L4
    MOVI     r0,    #0
    BL       L3
    INCSP    #1
    POP
```

```
PROC outhdr
L141
    PUSH
    DECSP    #1
    MOVI     r0,    #168
    LDRR     r0,    [r7,   r0]
    LSRI     r0,    r0,    #1
    STRI     r0,    [r7,   #10]
    LDRPCI   r0,    C27
    LDRI     r1,    [r7,   #10]
    ANDR     r0,    r1
    BL       L140
    LDRI     r0,    [r7,   #10]
    LSRI     r0,    r0,    #16
    BL       L140
    INCSP    #1
    POP
C24
    DCD      1023
C25
    DCD      -1023
C26
    DCD      2047
C27
    DCD      65535
```