

Lecture 20: Summary and Outlook

COMS10007 - Algorithms

Dr. Christian Konrad

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Long-term Goal: Ability to design and analyze algorithms

- ① **Algorithms** (1st year)
Dr Christian Konrad
- ② **Data Structures and Algorithms** (2nd year)
Dr John Lapinskas
- ③ **Advanced Algorithms** (3rd year, optional)
Dr Raphael Clifford
- ④ **Advanced Topics in Theoretical CS** (4th year, optional)
Dr Christian Konrad and Dr Raphael Clifford

Projects:

- Final projects, Bsc/MEng theses
- Summer internships (after the second year)
- PhD theses

Take-away from this Unit

Skills:

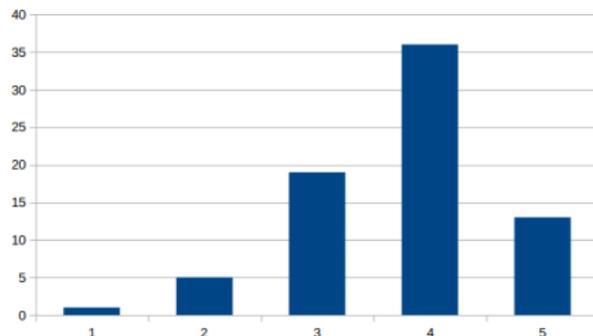
- O , Ω , Θ -notation and proofs
- Loop invariants
- Divide and Conquer
- Solving recurrences
- Dynamic programming

Key Knowledge:

- Insertionsort, Mergesort, Heapsort, Quicksort
- Sorting lower bound
- Binary search
- Fibonacci numbers

Overall Evaluation:

- 74 feedback submissions
- Average: 3.74



Discussion Points:

- Too fast, too slow
- Exercise sheets too hard, not enough hard exercises on sheets
- Slides unclear, excellent slides
- Stop recapping induction at length!
- Release solutions to worksheets quicker
- **Small exercise class groups**

Please do not hesitate to apply for TAing for the next edition of the Algorithms unit!

I was pleased with....:

- Exercise classes, discussions
- Drop-in sessions
- Discussion board
- Midterm results

Outlook:

- No exam
- No more lectures
- Solutions to exercise sheet 7 next week

All the best for the future!