CMSC 132: Object-Oriented Programming II

Final Exam & Summary

Department of Computer Science
University of Maryland, College Park
Final Exam Location

Time
- Friday
- Dec 14th
- 4-6pm

Place
- Chemistry 1407
- CHM (Bldg 091)
Final Exam Topics

50% topics from midterm 1 & 2
- Algorithms, data structures, complexity
- Software engineering, OO design
- Multithreading & synchronization in Java

50% new topics
- Networking & networking support in Java
- Sorting algorithms
- Algorithm strategies
- Design patterns
- Effective Java
- Advanced trees
Question Formats

- True/ false
- Fill-in-the-blank
  - Short answers expected
- Multiple choice
- Analyze complexity
- Apply algorithms
- Design OO solution in UML
- Write code
CMSC 132 Summary

We covered
- Object-oriented software development
- Algorithms & data structures

Provided brief glimpse of CS applications
- Human computer interfaces (GUIs)
- Machine learning (Markov models)
- High performance computing (Multithreading)
- Networking, compression, databases

Hope you improved
- Programming skills (coding, testing, debugging)
What Comes Next?

- CMSC 212 – Low level programming
  - Treating references as memory addresses (in C)
- CMSC 250 – Discrete structures
  - Simple discrete math & proofs
- CMSC 311 – Computer Organization
  - How computers work
- CMSC 330 – Programming Languages
  - Different programming languages & paradigms
- CMSC 351 – Algorithms
  - Analyze & prove complexity of algorithms
What Comes Next?

Building computer systems
- 411 architecture, 412 operating system, 414 security,
  417 networking, 430 compilers

Building software
- 433 programming technologies, 434 human-
  computer interfaces, 435 software engineering

Theory of computing
- 420 data structures, 451 advanced algorithms, 452
  computation theory, 456 cryptology

Applications
- 421 artificial intelligence, 423 bioinformatics, 424
  databases, 426 image processing, 427 graphics
Computer Science

Very interesting
- Once you get beyond basic programming
- Improvements in software tools make it increasingly easy to provide a lot of functionality with little code

Useful in many fields
- Engineering, physical sciences, biological sciences
- Information management for businesses ($$)

In high demand
- Always in top 10 in # of open job positions
- $52K average starting salary for 2007 grads
- Skilled software professionals always in demand
A Reminder

Fill in class evaluations
  - https://www.courseevalum.umd.edu/portal
  - Deadline Dec 12

Help us improve the course...
Finally…

Good luck on Exam

Have a nice Xmas!