

SE 2AA4, CS 2ME3 (Introduction to Software Development)

Winter 2018

37 Review for Final DRAFT

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37 Review for Final DRAFT

- Administrative details
- Topics on the exam
- Structure of the exam
- Advice on exam preparation
 - ▶ Time management before the exam
 - ▶ Time management during the exam
 - ▶ How to study
 - ▶ Sample questions
- Advice to improve 2me3/2aa4
- Questions? Feedback? Comments?

Administrative Details

TBD

Topics on the Final Exam

- All of them :-)
- From “introduction to software engineering” to “design patterns”
- Greater emphasis on the material since the midterm, especially
 - ▶ Specification
 - ▶ Verification

Types of Questions

- Multiple choice (45 questions)
- Some questions will be True/False
- Similar to midterm
- Exam material emphasis will be similar to lecture material emphasis

Time Management

- Time management before the exam
 - ▶ Make a schedule
 - ▶ Optimize the reward for spending your time and energy
 - ▶ Work smarter not harder
 - ▶ Schedule time for rest
- Time management during the exam
 - ▶ You have an average of $150/45 = 3.3333$ minutes per question (Midterm was 3.0 minutes per question)
 - ▶ Some questions will take longer, some much less time
 - ▶ Leave nothing blank
 - ▶ No bonus for leaving early
 - ▶ Make sure follow scantron instructions
- Eliminate inappropriate options
- Useful information possibly in other questions
- Trust your answer, like you trust a riddle answer

Riddles

- What belongs to you but others use it more than you do?

Riddles

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 - ▶ Your name

Riddles

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 - ▶ Your name
- Jeopardy answer: “Archibald Leach, Bernard Schwartz and Lucille LeSueur.” What is the question?

Riddles

- What belongs to you but others use it more than you do?
 - ▶ Your name
- Jeopardy answer: “Archibald Leach, Bernard Schwartz and Lucille LeSueur.” What is the question?
 - ▶ Who are three people who have never been in my kitchen?

How to Study?

- See posting on Avenue from after midterm
- Better if an active, rather than a passive, process
- Do questions
 - ▶ From midterm, assignments
 - ▶ From the textbook
 - ▶ From other books
 - ▶ Make up your own
 - ▶ MIS for an ADT that you have studied
 - ▶ MIS for 2C03 assignments
 - ▶ Post questions to Avenue

Example

An object's state can be summarized by listing its methods. Is this statement true or false?

- A. True.
- B. False.

Example

Abstraction is the principle that different concerns should be isolated and considered separately. Is this statement true or false?

A. True.

B. False.

Example

The design of the Python programming language does *not* enforce the principle of information hiding. Is this statement true or false?

A. True.

B. False.

Example

What is the minimum number of test cases for full statement coverage of the following function?

```
def maxOfThreeNum(x1, x2, x3):  
    if x1 >= x2:  
        if x1 >= x3:  
            max = x1  
        else:  
            max = x3  
    else:  
        if x2 >= x3:  
            max = x2  
        else:  
            max = x3  
    return max
```

Example Answers

A. 1.

B. 2.

C. 3.

D. 4.

E. 5.

Questions?

- Software quality?
- Software principles?
- Module decomposition?
- MIS?
- Parnas tables?
- Fault seeding
- White box testing?
- Analysis?
- ...

How to Improve 2ME3/2AA4?

- Topics to cover/emphasize/de-emphasize?
 - ▶ Correctness proof?
 - ▶ Design patterns?
 - ▶ Functional programming?
 - ▶ etc.
- Technology to cover/emphasize/de-emphasize?
 - ▶ Doxygen? Javadoc?
 - ▶ Continuous integration?
 - ▶ Make?
- Programming language(s)
 - ▶ Python?
 - ▶ Java?
 - ▶ Haskell?
 - ▶ C++?

How to Improve 2ME3/2AA4?

- Discontinue open book for tests?
- Sequence of assignments?
- Improving lecture attendance?
- Other thoughts/ideas?