

Mid-Term Study Guide

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CIS 2353

Fall 2023

The topics that are found on the test are as follows. You will have **one attempt** at the mid-term exam, so I suggest you wait until you've watched/read all the materials for lectures, and gone through the book and/or slides and make sure you are confident.

You are on the honor system and may not communicate with other students for answers. If you do cheat, may you be flogged aggressively, 50 lashes with a Styrofoam pool noodle while your family watches in horror.

I recommend making a crib sheet / notes. You may use an 8.5 x 11 inch sheet, both sides with anything typed or written on it.

There are **20 questions**.

MC = multiple choice

TF = true/false

1. [MC, 5 pts] Know about the three primary principles of OOP (Object Oriented Programming)
2. [MC, 5 pts] Know about sequential, selection, and repetition control statements.
3. [MC, 5 pts] Same topic as (2)
4. [MC, 5 pts] Know about the abstract and final keywords – what they mean, what they do in the context of methods and classes.
5. [MC, 5pts] Know about the ADTs Bag, Stack, Queue, Deque, and Priority Queue
6. [MC, 5pts] Know about the Big O notation, and the different categories of computational complexity – especially the primary ones discussed in class / documentation provided.
7. [MC, 5pts] Given code, be able to find the Big O
8. [MC, 5pts] Same topic is (7)
9. [TF, 5pts] Know about the ADTs Bag, Stack, Queue, Deque, and Priority Queue

10. [TF, 5pts] Know about how inheritance, superclasses, subclasses, and polymorphism work, as well as fundamental syntax involved.
11. [MC, 5pts] Know how to convert infix to postfix using the technique demonstrated in class.
12. [MC, 5pts] Same topic as (11)
13. [MC, 5pts] Know about generics, specifically the ArrayList
14. [MC, 5pts] Know about the compareTo method and the Comparable interface, how they are used, etc.
15. [MC, 5pts] Know about recursions – including recursive cases, base cases, etc.
16. [MC, 5pts] Given syntax involving exceptions and exception handling, be able to determine what is run in the code and what is skipped. Specifically make sure you know what the try, catch, and finally statements do.
17. [MC, 5pts] Know about the different implementations of the ADT Bag, and the complexities of the different methods, depending on the implementation (e.g., Array, Linked-chain)
18. [MC, 5pts] Know about the methods and behavior of the ADT Stack.
19. [MC, 8pts] Know about Wrapper classes and generics (such as the ArrayList).
20. [MC, 2pts] Mystery question.