CIS 234 Summer 2015 Mid Term Examination

Please answer each multiple choice question. For any given question, you may supply a longer written explanation of your position, for potential credit. In cases where the student misses the correct answer, a justified explanation, where correct, is counted up to 25% of the question. In all questions, please select the answer which directly addresses the question.

1. In the case of the ArrayList<>, is a custom-built object, programmed by the user, sufficient to operate equally as efficiently as a String or other Java primitive type?

YES

NO

2. What potential relationship exists between a for-loop and an ArrayList<>?

a) the regular for loop is suited to verify the object or data type existent within the ArrayList, before iteration
b) an enhanced for-loop operates to traverse the items in an ArrayList, exposing each item, potentially to fulfill an if-else condition

3. In comparing a regular for-loop to an enhanced for-loop, the regular for loop excels for problems where the index value of each item within an array-type collection is good to know.

TRUE

FALSE

4. Enhanced for-loops omit defining predetermined limits, in favor of halting iteration at the close of a complete array-like collection.

TRUE

FALSE

5. In accessing member variables within a class, private member variables typically:

a) cannot be accessed by classes outside their defining class, save for get/set methods

b) are immediately accessible outside their defining classes by the use of the this keyword, which accesses their instance value, by the calling class

6. The value of object-oriented programming is in accomplishing programming tasks outside a main, or other areas where called, thereby reducing programming complexity via code reuse.

TRUE

FALSE

7. In cases where an ArrayList<> is initialized with a null object, the program fails. Why would an object be null?

a) null objects do not cause any program to fail when the programmer puts proper protections in place, for example, checking to see if a variable is not null before attempting to initialize an object which demands it.

b) a null object simply lack data to initialize or populate it, therefore resulting in an empty object or null pointer, when an ArrayList is built.

c) in general, the java virtual machine (VM) assists each application from crashing due to null pointer exceptions.

8. In designing a program to simulate a real-world entity, situation or complex problem, it is possible to model java classes after entities which play roles in the scenario.

a) TRUE, but Java seeks to use data types which are strongly typed, or use conventional spoken language

b) TRUE, and Java permits the programmer to construct classes which contain data that might be known by a real person or thing, in a situation, otherwise known as a member variable

9. A programmer must engineer software by placing as many lines of code as possible, as soon as possible, thereby reducing time to delivering a solution.

a) TRUE. Most programmers are effective when they aggressively attack a solution, omitting time to reflect, model or otherwise complicate a problem with undue reasoning.

b) FALSE. Coding is to be avoided until a simple, formulaic solution is apparent, following extensive modeling away from the computer.

10. In the case of a Java class, a constructor is used to:

a) establish important helper methods which apply to vast numbers of situations

b) supply data which the class needs to begin to function.

c) avoid placing undue strain on RAM in runaway processes, through an efficient definition of key member functions

d) ensure optimal memory allocation for the sake of the Java Virtual Machine (VM)