



## CS 433 - Advanced Programming

Fall 2018

### Quiz 1

Marks: 30

Time: 20 min.

Name: \_\_\_\_\_

Roll Number: \_\_\_\_\_

Date: 18/09/18

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Fill in the blank spaces:

[8]

1. All classes in java inherit from the \_\_\_\_\_ class
2. Java code compiles into \_\_\_\_\_ code.
3. Every primitive data type has a corresponding \_\_\_\_\_ class.
4. In Java, memory gets allocated for objects from the \_\_\_\_\_.
5. ArrayList class in java is found in the \_\_\_\_\_ package.
6. \_\_\_\_\_ is the process of automatically freeing objects that are no longer referenced by the program.
7. In C++, what problem can be foreseen if multiple inheritance is used?
8. Which of the following command compiles a Java file from the command line?
  - javac filename
  - **javac filename.java**
  - java filename
  - java filename.class

**Encircle True or False:**

**[6]**

1. Primitive data types are always passed by value in Java. True / False
2. There is no operator overloading in Java. True / False
3. Java allows multiple inheritance. True / False
4. In Java, upcasting is implicit and downcasting is explicit. True / False
5. Upcasting may result in loss of precision True / False
6. The Java Virtual Machine is identical for all processors. True / False

**Answer the following:**

1. For this problem, you should write a very simple but complete class. The class represents a counter that counts 0, 1, 2, 3, 4,... The name of the class should be Counter. It has one private instance variable representing the value of the counter. It has two instance methods: increment() adds one to the counter value, and getValue() returns the current counter value. Write a complete definition for the class, Counter. **[4]**

2. Suppose that Fruit is the name of a class and that apricot is a variable of type Fruit. What is the meaning of the statement "apricot = new Fruit();" ? That is, what does the computer do when it executes this statement? **[4]**

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3. What output is produced by the following program segment? (Recall that name.charAt(i) is the i-th character in the string, name.) **[4]**

```
String name;  
int i;  
boolean startWord;  
  
name = "Advanced Programming In Java";  
startWord = true;  
for (i = 0; i < name.length(); i++) {  
    if (startWord)  
        System.out.println(name.charAt(i));  
    if (name.charAt(i) == ' ')  
        startWord = true;  
    else  
        startWord = false;  
}
```

4. What is the output of the following programs: **[4]**

```
a) class MineAlone{  
    int a = 1;  
    int b = 3;  
  
    public static void main(String args[]){  
        System.out.println (a + b);  
    }  
}
```