

CS203

Java Programming and Applications Fall 2022

Assignment 1 (7 Questions, 100 marks)

Assigned Date: September 20, 2022

Due Date: October 2, 2022 @ 23:59

- 1) Portability and security of Java as a result? *3 marks*
 - a) The applet makes the Java code secure and portable
 - b) Use of exception handling
 - c) Bytecode is executed by JVM
 - d) Dynamic binding between objects

- 2) Which of the following for loop declaration is not valid? *3 marks*
 - a) `for (int i = 77; i >= 0; i / 7)`
 - b) `for (int i = 5; i <= 55; i += 5)`
 - c) `for (int i = 10; i >= 1; - i)`
 - d) `for (int i = 2; i <= 20; i = 2* i)`

- 3) What is the initial quantity of the ArrayList list? *3 marks*
 - a) 5
 - b) 10
 - c) 0
 - d) 100

- 4) Which of these have the highest precedence? *3 marks*
 - a) /
 - b) *
 - c) ()
 - d) +

- 5) What is the return type of a method that does not return any value? 3 marks
- a) int
 - b) float
 - c) void
 - d) double
- 6) What is the difference between continue and break statement? 5 marks
- 7) Why are Strings in Java called Immutable? 5marks
- 8) What is the default switch case? Give an example.5 marks
- 9) A developer imports a package “uofR.*”, all classes in the package named university are loaded, but no classes from the sub-package are loaded. To load the classes from its sub-package (say “CS”), a developer has to import it explicitly as? 5 marks
- 10) Can we have two methods in a class with the same name? Explain? 5marks

Section B

Question 1(20 marks)

Write two overloaded methods in a class named **MaxOfArray** that return the maximum number of an array with the following headers:

public static int average(**int**[] array)

public static double average(**double**[] array)

Write a **main** method that prompts the user to enter ten double values, invokes this method, and displays the max value. Use CamelCase Notation for all identifiers in your program.

Question 2(40 marks)

Write a program in java to ask a string of characters (minimum of 10 characters) from the user. The program goes ahead to capitalize on the first character and checks the number of vowels in the string and the total number of characters in the string.

NB: Implement a method