LaSalle College
Montréal

Prep Midterm Evaluation: 0%

Course Identification

Name of programs – Code:	MOBILE AND WEB APPLICATIONS DEVELOPMENT FOR THE MOBILE DEVICES – LEA.00
Course title:	**INTRODUCTION TO PROGRAMMING (JAVA)**
Course number:	420-JP5-AS
Group:	07150
Teacher's name:	Mihai Maftei
Duration:	3 periods (150 minutes)
Semester:	Fall 2018

Student Identification

Name: _____ Student number: _____

Date: Oct 18, 2018 Result: _____

Standard of the Evaluated Competencies

Statement of the evaluated competency – Codes

Produce algorithms – 016W
Use a structured programming language – 016S

Evaluated elements of the competency 016W

1. Analyze the situation
2. Develop the algorithm
3. Validate the algorithm

Evaluated elements of the competency 016S

4. Prepare the programming environment
5. Adapt algorithms to the constraints of the programming language.
6. Translate the algorithms into a programming language.
7. Compile the program.
8. Test the program.

Instructions

- No break is allowed in this exam. Students are not allowed to exit the examination room before half of the allotted time has passed. Once a student has exited the classroom, he or she may not re-enter. (PIEA – Article 5.12.4)
- Internet access is allowed during the exam.
- Class notes are allowed.
- Students must use the computers in the exam room.
- The teacher will not answer questions during the final exam.
- Students must keep silent during the exam time.
- It is the teacher's responsibility to identify language errors. If such errors are found, the teacher has the right to apply a penalty of up to 10% of the grade. (PIEA – Article 5.7)
- Plagiarism, any attempt at plagiarism or complicity in plagiarism during an evaluation representing 20% and more of the final grade, will result in a course failure. (PIEA – Article 5.16)

Mark Breakdown

This examination is calculated on 100 points distributed as follows:

Case Study:

SECTION I Algorithms

Question 1: Algorithm (pseudo-code) concepts	For a total of 20 points
Question 3: Algorithm (pseudo-code) concepts	For a total of 20 points

SECTION II C++ Programming (coding)

Question 2: Development of a Java application	For a total of 20 points
Question 4: Development of a Java application	For a total of 20 points
Question 5: Development of a Java application	For a total of 20 points
TOTAL :	**100 points**

Instructions

Read each of the following questions carefully, and then write your answers to the theory questions (q1,q3) into the text file (.docx, .txt) or as a comment in the beginning of your java file. For the programming question, you have to use Eclipse and Java.

Questions/Algorithme - Java code

Question 1 (20 points)

Write an algorithm in pseudo-code, which will ask the user to enter the name and 6 numbers, and then find out the bigger number entered. Calculate and print out the average.

Question 2 (20 points)

Write, test, and debug the Java program based on the algorithm from Q1. Use string for your name, and an array of appropriate data types that will better represent the entered data.

Example of the output:

Enter your name : FirstName
Enter the number 1 : 12
Enter the number 2 : 3.5
Enter the number 3 : 1.6
Enter the number 4 : 4.4
Enter the number 5 : 1.5
Enter the number 6 : 1
The bigger number FIRSTNAME entered is : 12 and the average is : 4

Question 3 (20 points)

Rewrite the algorithm (pseudo-code) from Q1, but this time without knowing in advance how many numbers the user wants to proceed. If the user enter 0, stop asking for a number, and display the maximum and the minimum of entered numbers, then the average.

Question 4 (20 points)

Write and test and/or debug the Java program based on the algorithm from Q3. Use appropriate structures and data types that will better represent your algorithm.
Example of the output:
Enter your name : FirstName
Enter the first number FIRSTNAME or 0 to quit: 10.5
Enter another number FIRSTNAME or 0 to quit: 3
Enter another number FIRSTNAME or 0 to quit: 2
Enter another number FIRSTNAME or 0 to quit: 2.5
Enter another number FIRSTNAME or 0 to quit: 12
Enter another number FIRSTNAME or 0 to quit: 0
The biggest number is : 12 and the smallest number is : 2 and the average is: 6

Question 5 (20 points)

Write and test and/or debug the Java program to create a menu with 3 options using **do{}while** loop to integrate the code of Q2 and Q4 using the **switch** statement. Test your code for each option.

Identify yourself and the work in all files. Save your work (.java file(s) for Q2 ,Q4 and Q5) and/or (text file for Q1, Q3). Send them on LEA of Omnivox.

Thank you.