



ELIZADE UNIVERSITY

ILARA-MOKIN

FACULTY: BASIC AND APPLIED SCIENCES

DEPARTMENT: MATHEMATICS AND COMPUTER SCIENCE

2nd SEMESTER EXAMINATION

2016 / 2017 ACADEMIC SESSION

COURSE CODE: CSC 202

COURSE TITLE: Computer Programming

COURSE LEADER: Dr. E. Ayetiran, Dr. K. Aregbesola, Mr. O. Babalola

DURATION: 2 Hours

HOD's SIGNATURE

INSTRUCTION:

Candidates should answer at least one question in each section and FOUR questions in all.

Students are warned that possession of any unauthorized materials in an examination is a serious assessment offence

Section A

1.
 - a. Explain the concept of conditional/selection statements with regards to control structure
 - b. Draw the flowchart of a typical conditional/selection statement
 - c. Write a java code snippet for assigning a letter grade based on scores such that:
 - letter-grade "A" is assigned to a score greater than or equal to 70
 - letter-grade "B" is assigned to a score greater than 60 but less than 70
 - letter-grade "C" is assigned to a score greater than 50 but less than 60
 - letter-grade "D" is assigned to a score greater than 45 but less than 50
 - letter-grade "F" is assigned to any score below 45.
 - d. Given that "a" is a Boolean variable, evaluate the following programming statements
 - i. `a = 3 > 1;` ii. `a = 3 + 4 <= 5 - 2;` iii. `a = 3 > 1 && 4 < 5;`
 - iv. `a = 3 > 1 && !4 < 5`
 - e. Explain the concept of exception?
2.
 - a. Briefly discuss the concept of inheritance?
 - b. Given that the class "Subclass" inherits the properties and behaviors of the class "Superclass", how is this written in Java.
 - c. Explain the concept of Polymorphism.
 - d. What is the function of the "super" or "this" keyword and when are they used?
 - e. Write the necessary java code to show how you would handle possible exceptions from attempting to read data from an input text file and transfer its content to an output text file.

Section B

3. (a) Define the following: Variable, Object, Class, Data Type, Concatenation
 - (b) Explain four fundamental OOP Concepts.
 - (c) Give the basic structure of the following with a real java code example
 - (i) Method Declaration (ii) Class Declaration (iii) Class Declaration
 - (d) Write a single line java code that links the following: Class, SuperClass, Interface
4. (a) Study the code below, write the function of each line of the code, and write out the output of the code.

Package arrayelement

```
public class ArrayElement {  
  
    public static void main (String [] args) {  
  
        int [] arr1 = {1,8,15,25,37,48,58};  
  
        int [] arr2 = {1,2,6,25,36,37,38};  
  
    }  
}
```

```

for (inti=0; i< arr1.length; i++) {
    for (int j=0; j < arr2.length; j++)
        if (arr1 [i]==arr2[j])
            {
                System.out.println(arr1[i]);
            }
    }
}

```

(b) Write a code to accept 10 numbers from a user and calculate the average of the numbers.

Section C

5(a) i. Explain the processes involved in going from a programming problem to a java program that is executed on users' computers.

ii. Using Java statements, show 5 arithmetic operators

iii. Using Java statements, show 5 logical and comparison operators

5(b) i. One important feature of the Java programming language is the concept of the JVM. Explain what the JVM is and what capabilities it allows Java to possess.

ii. With Java examples, declare variables for each data type of the Java programming language.

iii. Java is a high-level language. Java is an object-oriented language. Java allows write once, run many. What do you understand by the three preceding statements?

6(a).i List the three Java programming structures for iteration

ii. What will the value of the variable result default to in the following statement?

String result = false ? "Dude, that was true" : "Sorry Dude, it's false";

iii. What will the value of minVal be in the following statement? Explain your answer and name the Java construct used in the statement.

minVal = a < b ? a : b;

iv. Write Java code segments for each of the three programming structures for iteration in Java. Explain how your code works mentioning how it iterates and terminates

vi. Is Break and Continue the same? Give justifications for your answer.