

UNIVERSITY EXAMINATIONS

1ST SEMESTER 2022/2023 ACADEMIC YEAR

SECOND YEAR EXAMINATION FOR THE DEGREES
OF BACHELOR OF SCIENCE (COMPUTER
SCIENCE)/BACHELOR OF SCIENCE (ICT)

COMP 211/BICT 212: OBJECT ORIENTED PROGRAMMING

STREAM: R

TIME: 2 HRS

DAY: MONDAY [8.30AM – 10.30AM]

DATE: 19/12/2022

THIS QUESTION PAPER CONSISTS OF SEVEN (7) PAGES

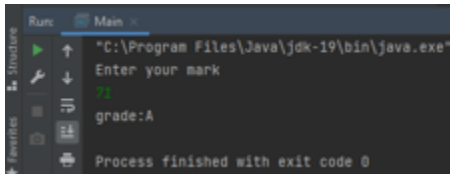
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INSTRUCTIONS: - ANSWER QUESTION ONE (COMPULSORY 30 marks) AND ANY OTHER TWO QUESTIONS

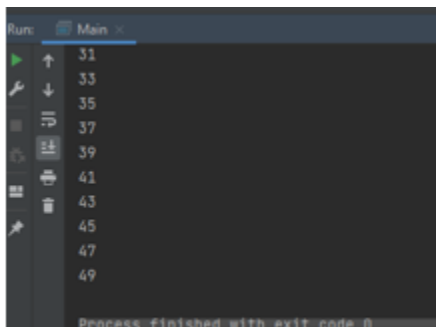
QUESTION ONE

- (a) Write a java program that will display the below output using the switch statement.

(6 marks)



- (b) Differentiate between local and global variables. (4 Marks)
- (c) Write a java program that will accept two integers divide the first integer by the second and display the answer and the remainder. (4 Marks)
- (d) Discuss illustrating with examples three types of errors that can be found in a java program. (6 Marks)
- (e) Write a java program that will produce the below output. (3 marks)



- (f) Write down the output of the following (2 marks)

Int b = 4;

Int c = 5;

(i) System.out.println("b ==c is " + b==c);

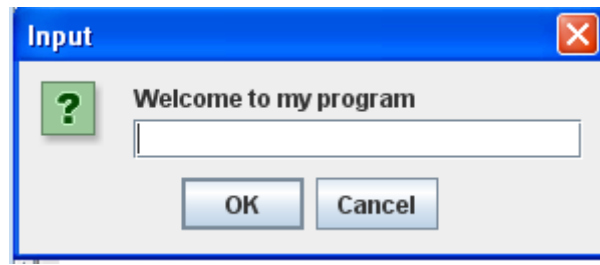
(ii) System.out.println("b!=c is " + b!=c);

- (g) State the three repetition control structure. (3 marks)
- (h) A variable can be Global or Local. Using examples, clearly discuss each. (2 marks)

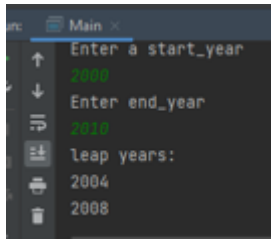
- (i) Write a java program that will accept two integers divide the first integer by the second and display the
- (ii) answer and the remainder. (6 Marks)

QUESTION TWO (20 MARKS)

- (a). The switch statement observes certain rules. Explain them. (4 marks)
- (b). Write a program that will produce the following output. (6 Marks)



- (c). Write a java program using the Do while statement to display the below output.



(6 marks)

- (d). Rewrite the following program segment using the switch statement.

```

if(year ==1)
    System.out.println("Fresher");
else if(year ==2)
    System.out.println("Second year");
else if(year ==3)
    System.out.println("Third year");
else if(year ==4)
    System.out.println("Fourth year ");
else System.out.println("Invalid Year");
    
```

(4 Marks)

QUESTION THREE (20 MARKS)

(a). Complete the following class called MyClass. This class consists of a single main method that asks the user to input an integer. The main method tells whether the number is even or odd.

A sample output for your class would be:

Enter an integer: 12
12 is an even number

(6 marks)

(b). Another way to get input from the user is by using the JOptionPane class which is found in the javax.swing package. Rewrite the program that will ask the user to enter their name and thereafter display the name on the screen with the preceeding string “Hello “ so as to produce the following output:

(10 Marks)



(c). What is the output of the below java code?

(2 marks)

```

public class whileloop {
    Run | Debug
    public static void main(String[] args) {
        int number = 10;
        while(number>1){
            System.out.println(number);
            number--;
        }
    }
}

```

(d). What is the output of the below java code.

(2 marks)

```

public class loopexample{
    Run | Debug
    public static void main(String[] args) {
        for(int num = 0; num<=9; num++){
            System.out.println("Number is: " +num);
        }
    }
}

```

QUESTION FOUR(20 MARKS)

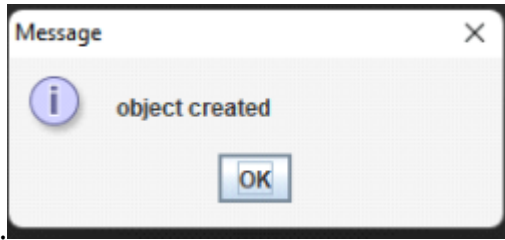
(a). List and explain any three main Access Control Modifiers in a class declaration that are used in Java programming.

(3 marks)

(b) In a ten (10) student's class, a teacher gave a test and the students Scored as follows. 20%, 78%, 94%, 60%, 64%, 88%, 92%, 55%, 46%, and 35%.. The teacher would wish to get the highest score (maximum). Using an array, write a program that can help the teacher. The program should display the highest score on the screen / console.

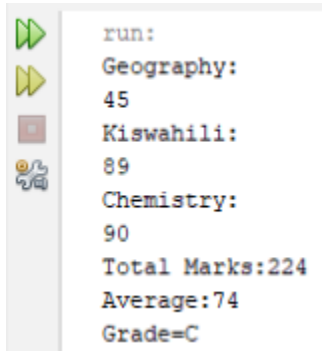
(12 marks)

- (c) Write a java program that will create a java object and give an output as shown below.
(5 marks)



QUESTION FIVE(20 MARKS)

- (a) Using the If else statement write a java program that will produce te below output: -
(6 marks)



- (b). Explain the difference between method overloading and method overriding.
(4 marks)

(c).

```
char g;
int marks;
if(marks>69)
g= 'A';
else if(marks>59)
g='B';
else if(marks>49)
```

```
g='C';  
else if(marks>39)  
g='D';  
else  
g='E';
```

Show how the same piece of program can be implemented using the switch statement.

(6 marks)

(d) Write a java program using the concat() method to produce the below output. (4 marks)

```
run:  
Enter the first name  
GILBERT  
Enter the first second  
KIRUI  
The first and second name after concatenation  
GILBERTKIRUI
```