



United International University (UIU)
Dept. of Computer Science and Engineering (CSE)

FINAL EXAM :: SPRING 2019

Course Code: **CSI 211** Course Title: **Object-Oriented Programming**

Date: **30/04/19** Total Marks: **40** Time: **2 Hours**

1. a) Create an object with reference type A using an **Anonymous Inner Class**. [4]

```
abstract class A {
    public void printSum(int a, int b) {
        System.out.println(a + b);
    }
    public abstract void printSum(int a, int b, int c);
    public abstract void printSum(int a, int b, int c, int d);
}
```

b) Fix the following code and re-write the correct one. You cannot remove any lines. You can only add or edit existing lines. [4]

<pre>class C { static int outer_x = 10; int outer_y = 20; private int outer_private = 30; class D { void display() { System.out.println("outer_x = " + outer_x); System.out.println("outer_y = " + outer_y); System.out.println("outer_private = " + outer_private); } } }</pre>	<pre>public class MainClass { public static void main(String[] args) { C.D obj = new C.D(); obj.display(); } }</pre>
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2. You are given a text file named “numbers.txt” which contains some numbers in each line that are separated with commas. Write a Java program to read the file and for each line print the max of the numbers in console. A sample input and output is provided below: [8]

Input.txt	Console
10,11,12	12
2,13	13
33,22,1,1	33
1	1

3. a) Fix the following code and re-write the correct one. You cannot remove any lines. You can only add or edit existing lines. [4]

<pre>public class MyTread implements Runnable{ String name; public MyTread(String name) { this.name = name; } public void run(int n){ System.out.printf("Running:%s %d times.\n", name, n); } }</pre>	<pre>public class Main{ public static void main(String[] args) { MyTread t1 = new MyTread("First Thread"); t1.start(); t1.join(); } }</pre>
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b) Consider the following java program. [4]

- I. Sort **students** ArrayList in ascending order by cgpa
- II. Sort **students** ArrayList in descending order by n

<pre>class Student { float cgpa; String name; public Student(float cgpa, String name) { this.cgpa = cgpa; this.name = name; } public String toString() { return this.cgpa + " " + this.name; } }</pre>	<pre>class Main { public static void main (String[] args) { ArrayList<Student> students = new ArrayList<Student>(); students.add(new Student(3.44, "Afnan")); students.add(new Student(2.1, "Ullash")); } }</pre>
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4. a) Observe the code below, the sample run/output and create the Exception Class mentioned in the code; **LowBatteryException**, so that the program produces the following outputs. [4]

<pre>import java.util.Scanner; public class MyException{ public static void main(String[] args) { Scanner sc = new Scanner(System.in); for(int i = 0; i < 2; i++) { System.out.print("Enter current charge percent: "); int chargeAmount = sc.nextInt(); try { if (chargeAmount <= 20) throw new LowBatteryException(chargeAmount); else System.out.println("Enough charge in battery."); } catch (LowBatteryException e) { System.out.println(e.getMessage()); } } } }</pre>	<p>Sample run/output</p> <p>Enter current charge percent: 25</p> <p>Enough charge in battery.</p> <p>Enter current charge percent: 16</p> <p>Battery is low! Should be above 20. Current value: 16</p>
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b) Consider the following java program. The values of String s, integer b and c are taken as input from the user. Write the output of the program for the following values of s, b and c: [4]

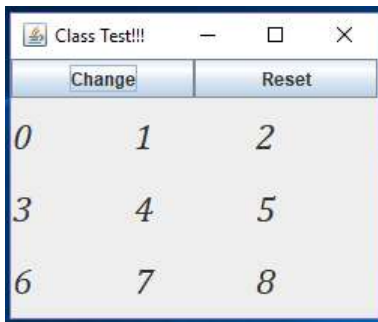
<pre>1. s="a" b=5 c=10</pre>	<pre>2. s="2" b=1 c=3</pre>	<pre>3. s="20" b=0 c=6</pre>	<pre>4. s="100" b=200 c=10</pre>
<pre>import java.util.Scanner; public class Test { public static void main(String[] args) { Scanner sc = new Scanner(System.in); try{ String s = sc.next(); int a = Integer.valueOf(s); int b = sc.nextInt(); int c = sc.nextInt(); int [] array = new int[5]; int d = a / b; array[c] = d; System.out.println(array[c]); } catch (NumberFormatException e){ System.out.println("Input was not an Integer."); } catch (ArrayIndexOutOfBoundsException e){ System.out.println("Array index should be less than 5"); } catch (ArithmeticException e){ System.out.println("Can not divide by 0"); } } }</pre>			

Submit this page with your answer sheet

Name:	ID:
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5. Complete the code to get a gui like this.

[8]



//Import Necessary package here

```
public class Menu {
    Menu()
    {
        JFrame myframe;
        myframe=new JFrame();
        myframe.setLayout(new BorderLayout());
        //Set Frame title here

        myframe.setSize(200, 200);
        JPanel center = new JPanel();
        center.setLayout(new GridLayout(3,3));
        JLabel cell[] = new JLabel[9];
        for(int i=0; i<9; i++){
            //Complete the code to add label 0 to 9 and add to necessary panel

            cell[i].setFont(new Font("Cambria", 2, 24));
        }
        JPanel top = new JPanel();
        top.setLayout(new GridLayout());
        //Add code for button Change and Reset and add to necessary panel

        myframe.add(top, BorderLayout.NORTH);
        myframe.add(center, BorderLayout.CENTER);
        //Set frame visibility true

    }
    public static void main(String[] args) {
        new Menu();
    }
}
```