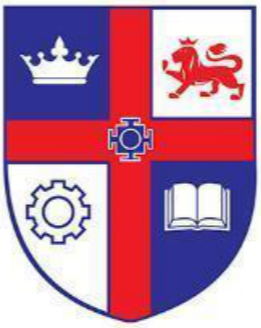
LONDON METROPOLITAN UNIVERSITY



islington college
(इस्लिङ्टन कलेज)

Module Code & Module Title

CS4001NI Programming

Assessment Weightage & Type

40% Written Examination

Semester and Year

Spring 2021

Student Name: Kishor Shrestha

Group: C6 (Computing)

London Met ID: 20048913

College ID: NP01CP4S210161

Examination Due Date: 12th September, 2021

Examination Submission Date: 12th September, 2021

I confirm that I understand my coursework needs to be submitted online via Google classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submission will be treated as non-submission and a mark of zero will be awarded

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Question no: 1

- **Input:**

```
import java.util.Scanner;

public class ElectricityBill1
{
   public static void main(String[]args)
   {
      Scanner myObj = new Scanner(System.in);
      System.out.println("Enter number of units + :");
      Integer total_units = myObj.nextInt();
      int min_charge = 100;
      int units;
      int total_amount = 0;

      if (total_units<=10)
      {
         System.out.println("You should have to pay Rs" + min_charge + " only.");
      }
      else if (total_units>=11 && total_units<=50)
      {
         units = total_units - 10;
         total_amount = min_charge + (units * 5);
         System.out.println("You should have to pay Rs" + total_amount + " only.");
      }
      else if (total_units>=51 && total_units<=200)
      {
         units = total_units - 10 - 40;
```

```
            total_amount = min_charge + 200 + (units * 10);
            System.out.println("You should have to pay Rs" + total_amount + " only.");
        }
        else if (total_units>=200 && total_units<=500)
        {
            units = total_units - 10 - 40 - 150;
            total_amount = min_charge + 200 + 1500 + (units * 15);
            System.out.println("You should have to pay Rs" + total_amount + " only.");
        }
        else if (total_units>500)
        {
            units = total_units - 10 - 40 - 150 - 300;
            total_amount = min_charge + 200 + 1500 + 4500 + (units * 20);
            System.out.println("You should have to pay Rs" + total_amount + " only.");
        }
        else
        { System.out.println("Please insert valid input.");
        }
    }
}
```

- **Output**

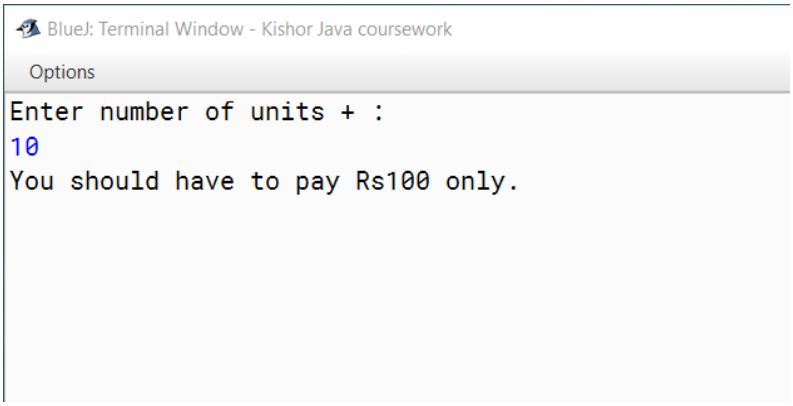

Figure 1: Screenshot of output of Qno1

Question no: 2

❖ Input:

```
public class Pattern2
{
   public static void main(String args[])
   {
      //row denotes the number of rows that is meant to be printed
      int i, j, row=5;
      //using outer loop for rows
      for(i=0; i<row; i++)
      {
                  for(j=0; j<=i; j++)
         {
            System.out.print("* ");
         }
         //changing line while printing
         System.out.println();
      }
   }
}
```

❖ Output:

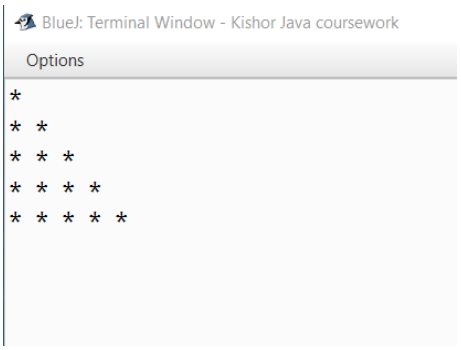

Figure 2: Screenshot of output of Qno2

Question no: 3

- **Input**

```
public class cylinder3
{
   //Default value of 10
   private float radius=10;
   private float height=10;

   public float volume()
   {
      float PI=22/7;

      float volume= PI* (radius*radius)/height;
      return volume;

   }

   public void setheight(float height)
   {
      if(height>=0){

         this.height = height;

      }
      else{
         System.out.print("The given value is negative so its default value is using as
variable");
      }
```

```
    }

    public void setradius(float radius){
        if (radius >=0){

            this.radius = radius;
        }
        else {
            System.out.print("The given value is negative so its default value is using as
variable");
        }
    }
    public float getradius()
    {
        return radius;
    }

    public float getheight()
    {
        return height;
    }

    public static void main(String[] args){
        cylinder3 obj= new cylinder3();
        obj.setheight(15);
        obj.setradius(14);
        System.out.println();
        System.out.println("Volume of the cylinder3 :" + obj.volume());
    }

}
```

❖ **Output**

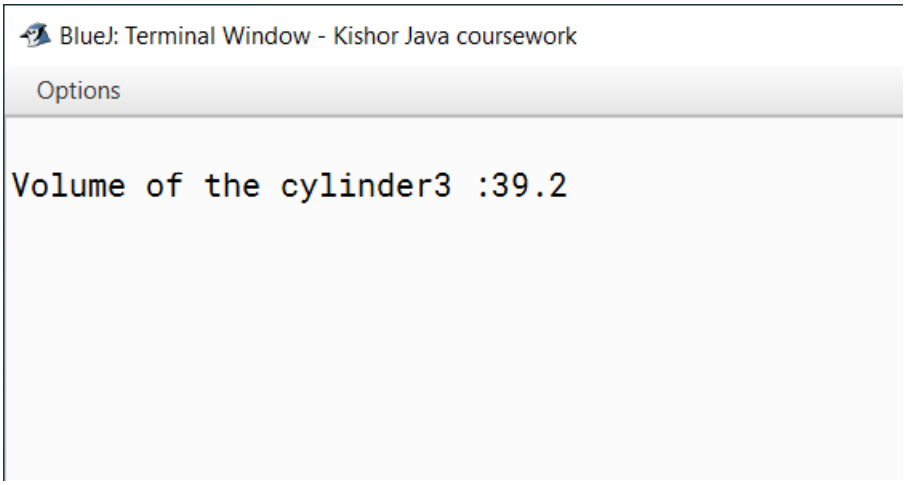

Figure 3: Screenshot of output of Qno3

Question no: 4

❖ **Input**

```
public class Array4 {
    boolean status = true;
    public int isFilter(int[] Array4){
        for (int i = 0; i <= Array4.length - 1; i++){
            if(Array4[i]==9){
                for (int j = 0; j <= Array4.length - 1; j++){
                    if(Array4[j]==11){
                        status = true;
                    }
                    else{
                        status = false;
                    }
                }
```

```
            }
            if(Array4[i]==7){
                for (int j = 0; j <= Array4.length - 1; j++){
                    if(Array4[j]==13){
                        status = false;
                    }
                    else{
                        status = true;
                    }
                }
            }
        }
        if (status == false){
            return 0;
        }
        else{
            return 1;
        }
    }

    public static void main(String args[]){
        Array4 fa = new Array4();
        int[] Array4={1, 2, 3, 9, 6, 11, 7, 13};
        System.out.println(fa.isFilter(Array4));
    }
}
```

- **Output:**

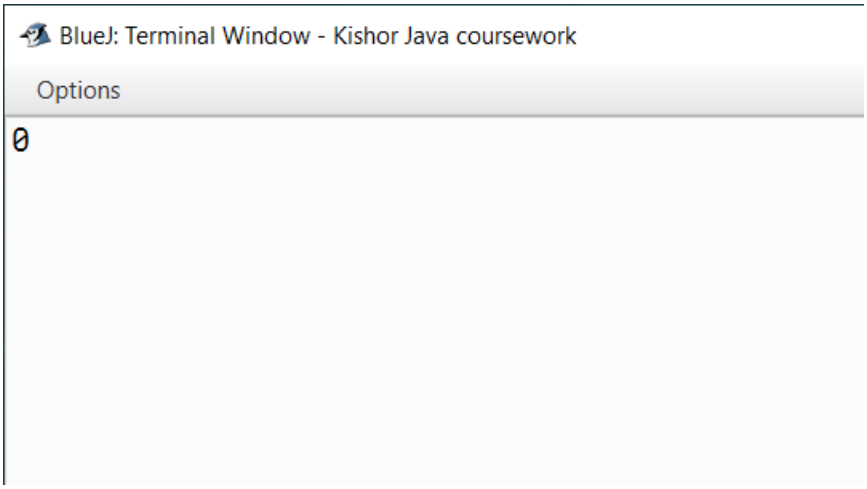

Figure 4: Screenshot of output of Qno4

Question no: 5

- **Input:**

Input for Area class:

```
public class Area extends Shape
{

 int area;
 int areaOfSquare;
 Double areaOfCircle;
    void rectangleArea(int length, int breadth){
        area=length*breadth;
        System.out.println("The area of rectange is:"+area);
```

```
    }

     void squareArea(int side){
        areaOfSquare=side*side;
        System.out.println("The area of square is:"+areaOfSquare);
     }

     void circleArea(double radius){
         areaOfCircle=3.14*(radius*radius);
         System.out.println("The area of circle is:"+areaOfCircle);
     }
}
```

Input for Main class:

```
public class main
{
    public static void main(String[] args) {
        Shape obj=new Area();
        obj.rectangleArea(10, 5);
        obj.squareArea(15);
        obj.circleArea(3.0);
    }
}
```

Input for Abstract shape class:

```
abstract class Shape {

    abstract void rectangleArea(int length, int breadth);

    abstract void squareArea(int side);

    abstract void circleArea(double radius);

}
```

- **Output:**

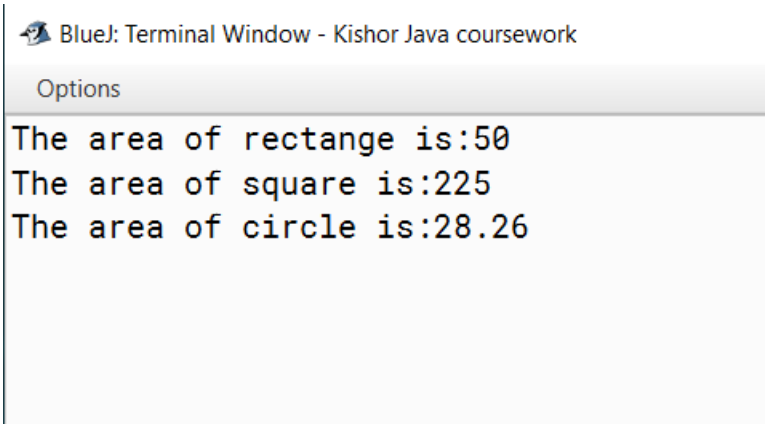

Figure 5: Screenshot of output of Qno5

Question no 6:

- **Input:**

```
import javax.swing.JRadioButton;
import javax.swing.*;
import java.awt.Color;
import javax.swing.JTextField;
import javax.swing.JLabel;
import javax.swing.ButtonGroup;
import javax.swing.JComboBox;
import javax.swing.JButton;

public class GUI6
{
    private JFrame frame;
    private JPanel panel1;
    private JLabel firstname;
    private JLabel street1;
    private JLabel lastname;
 private JLabel street2;
    private JLabel City;
    private JLabel Country;
    private JLabel ZipCode;
    private JLabel gender;
    private JRadioButton maleButton;
    private JRadioButton femaleButton;

    private JTextField txtfirstname;
    private JTextField txtlastname;
```

```
    private JTextField txtstreet1;
private JTextField txtCity;
    private JTextField txtZipCode;
    private JTextField txtCountry;
    private ButtonGroup btngroup;
    private JTextField txtstreet2;

    private JComboBox  country;
    private JButton btnOk;
    private JButton Cancel;
    private JButton Register;

    public GUI6(){
        initialFrame();
        myFrameA();

    }

    public void initialFrame(){
        frame = new JFrame("Registration form");
        frame.setLayout(null);
        frame.setSize(700,700);
        frame.setResizable(false);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        panel1 = new JPanel();
        frame.add(panel1);
        panel1.setBounds(0,0,700,700);
        panel1.setLayout(null);
        panel1.setBackground(Color.white);
        panel1.setBorder(BorderFactory.createLineBorder(Color.BLUE));
```

```
}

public void myFrameA(){
    firstname = new JLabel("First Name");
    panel1.add(firstname);
    firstname.setBounds(15,30,75,25);

    txtfirstname = new JTextField();
    panel1.add(txtfirstname);
    txtfirstname.setBounds(80,30,150,25);

    lastname = new JLabel("Last Name");
    panel1.add(lastname);
    lastname.setBounds(15,70,75,25);

    txtfirstname = new JTextField();
    panel1.add(txtfirstname);
    txtfirstname.setBounds(80,70,150,25);

    gender = new JLabel("Gender");
    panel1.add(gender);
    gender.setBounds(15,110,75,25);

    maleButton = new JRadioButton("male",true);
    maleButton.setBounds(80,110,75,25);
    panel1.add(maleButton);
    femaleButton = new JRadioButton("Female");
    femaleButton.setBounds(150,110,75,25);
    panel1.add(femaleButton);
```

```
btngroup = new ButtonGroup();
btngroup.add(maleButton);
btngroup.add(femaleButton);


//ButtonGroup group = new ButtonGroup();
// group.add(maleButton);
//maleButton =new JRadioButton("male",true);
street1 = new JLabel("Street 1");
panel1.add(street1);
street1.setBounds(15,150,75,25);

txtstreet1 = new JTextField();
panel1.add(txtstreet1);
txtstreet1.setBounds(80,150,150,25);

street2 = new JLabel("Street 2");
panel1.add(street2);
street2.setBounds(15,190,75,25);

txtstreet2 = new JTextField();
panel1.add(txtstreet2);
txtstreet2.setBounds(80,190,150,25);

City= new JLabel("city");
panel1.add(City);
City.setBounds(15,230,75,25);

txtCity= new JTextField();
panel1.add(txtCity);
txtCity.setBounds(80,230,150,25);
```

```
        ZipCode= new JLabel("Zip Code");
        panel1.add(ZipCode);
        ZipCode.setBounds(250,230,75,25);

        txtZipCode= new JTextField();
        panel1.add(txtZipCode);
        txtZipCode.setBounds(320,230,80,25);

        Country= new JLabel("Country");
        panel1.add(Country);
        Country.setBounds(15,270,75,25);

        String countries[] ={"Item","Nepal","srilanka","india","America","Tokyo",
"china","austrila"};
        country = new JComboBox(countries);
        country.setBounds(80,270,100,25);
        panel1.add(country);

        btnOk = new JButton("Ok");
        btnOk.setBounds(70, 300, 70, 30);
        panel1.add(btnOk);

         Cancel = new JButton("Cancel");
        Cancel.setBounds(170, 300, 150, 40);
        panel1.add(Cancel);

        Register= new JButton("Register me later");
        Register.setBounds(330, 300, 190, 20);
        panel1.add(Register);
```

```
    }
    public static void main(String [] args){
        new GUI6().frame.setVisible(true);
    }
}
```

❖ **Output:**

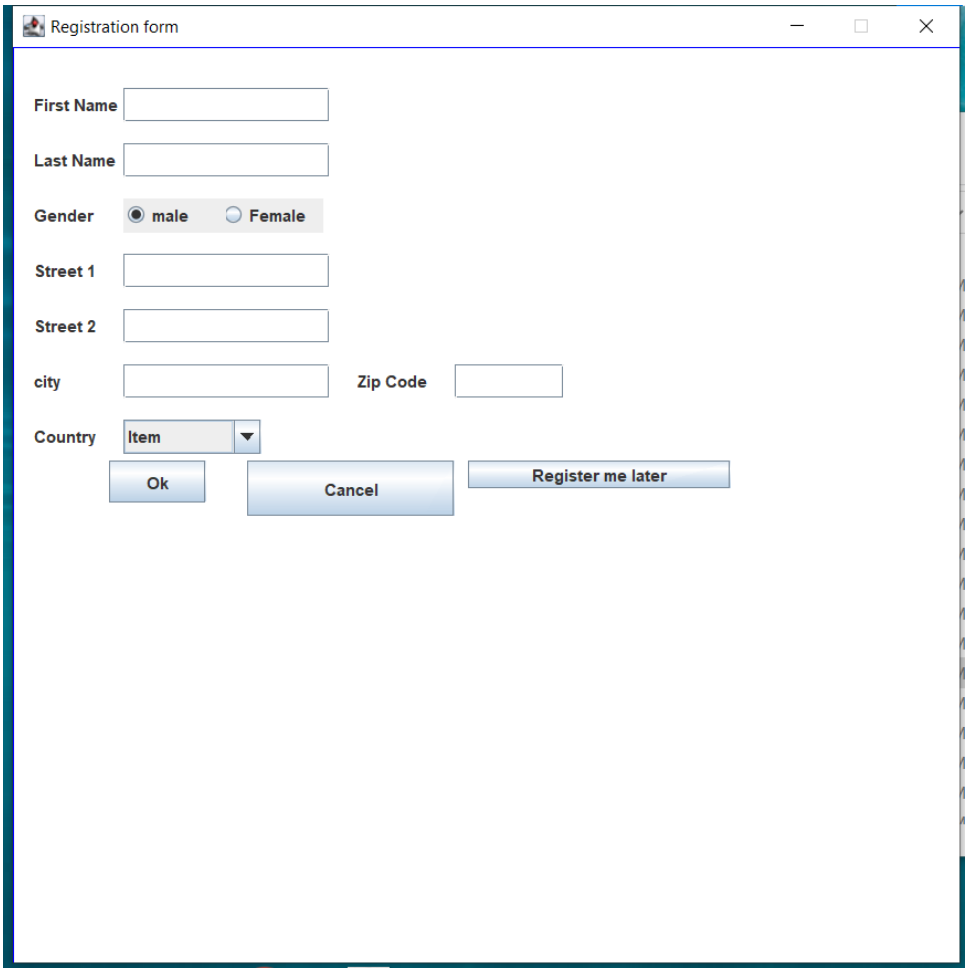

Figure 6: Screenshot of output of Qno6