

UNIVERSITY OF RWANDA

COLLEGE OF SCIENCE AND TECHNOLOGY

HUYE CAMPUS

SCHOOL OF ICT

YEAR 2

COMPUTER SCIENCE

JAVA PROGRAMMING

JAVA ASSIGNMENT2

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Question1.

Write a Java Program that uses the concepts of Multiple Inheritance using Interfaces. The program prompts user to enter 2 numbers using a method called getData() and displays their product using a method called Result().

```
package q1java;

import javax.swing.*.*;

interface group1{

    public void getData();

    public void displayResult();

}

class q1 implements group1

{

    public int a,b;

    public String s1,s2;

    public void getData()

    {

        JOptionPane k=new JOptionPane();

        s1=k.showInputDialog("enter a");

        a=Integer.parseInt(s1);

        s2=k.showInputDialog("enter b");

        b=Integer.parseInt(s2);

    }

    public void displayResult(){

        getData();
```

```
int c;
```

```
c=a*b;
```

```
JOptionPane op=new JOptionPane();
```

```
op.showMessageDialog(null,"product of two number is="+c);
```

```
}
```

```
}
```

```
public class MainClass
```

```
{
```

```
public static void main(String args[]){
```

```
    group1 g=new q1();
```

```
    g.displayResult();
```

```
}
```

```
}
```

Question2.

Write a Java Program that uses the concept of Inner and Outer classes to prompt user to enter his/her First name using GUI window then displays the message Hello First name you entered 10 times.

```
package inner2;
```

```
import javax.swing.*.*;
```

```
class outer{
```

```
public void accessInner() {
```

```
    inner n=new inner();
```

```
    n.display();
```

```

}

}

public class inner(){

    String firstname;

    JOptionPane k=new JOptionPane(System.in);

    public void display(){

        firstname=k.showInputDialog("Enter your firstname");


        int i=1;

        do{

            System.out.println("Hello "+" "+firstname);

i++;

        }

        while(i<=10);

    }

}

public class Inner2 {

    public static void main(String[] args) {

        outer j=new outer();

        j.accessInner();

    }

}

```

Question3.

Write a Java Program that uses the concept Abstract Classes to prompt user to enter a number less than or equal to 20 then displays its multiplication table.

```
package question3;
```

```
import java.io.*;
```

```
abstract class group1Class
```

```
{
```

```
    public void getDisplay()throws IOException{
```

```
        DataInputStream h=new DataInputStream (System.in);
```

```
        String b;
```

```
        int x,n;
```

```
        System.out.println("Ennter a number less than or equal to 20");
```

```
        b=h.readLine();
```

```
        n=Integer.parseInt(b);
```

```
        if((n>0)&&(n<=20))
```

```
        {
```

```
            x=1;
```

```
            do{
```

```
                System.out.println(" "+n+"*"+x+"="+n*x);
```

```
                x++;
```

```
            }
```

```

        while(x<=n);

    }

    else{

        System.out.println("Please Enter number in Range!!!!");

    }

}

```

```

class Assign extends group1Class

{

    public void result()throws IOException

    {

        getDisplay();

    }

}

```

```

public class Question3 {

    public static void main(String[] args)throws IOException {

        Assign f=new Assign();

        f.result();

    }

}

```

Question4.

Write a Java Program that uses Applet concept to display a message Welcome to Applet Programming in Blue color and display a line after this text in red color.

```
import java.awt.*;

import java.applet.*;

public class NewApplet extends Applet {

    public void paint(Graphics g){

        g.setColor(Color.blue);

        g.drawString("welcome to Applet Programming",50,50);

        g.setColor(Color.red);

        g.drawLine(50,60, 230,60);

    }

}
```