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Subject - Object Oriented Analysis and Java Programming
Class - MCA(2C)
Campus - Haldwani

1. Write an applet program which can perform the arithmetic operations like Sum, Subtract, Multiplication & Division.

Code:-

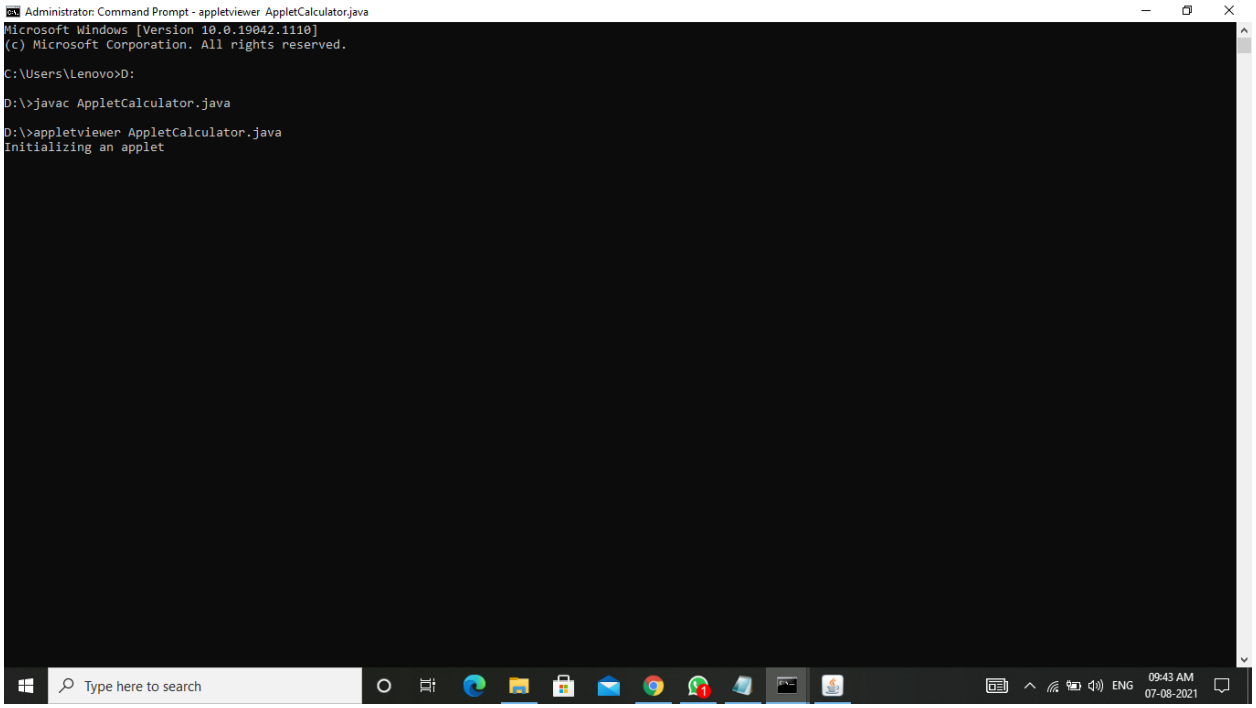
```
import java.awt.*;
import java.awt.event.*;
import java.applet.*;


public class AppletCalculator extends Applet implements  ActionListener
{
Label label1, label2, label3;
TextField tf1, tf2, tf3;
Button b1, b2, b3, b4;
String whichButtonClk;    //This String object will tells us which button is pressed

public void init()
{
System.out.println("Initializing an applet");

label1 = new Label("Number1");
tf1= new TextField(10);

label2 = new Label("Number2");
tf2= new TextField(10);
```

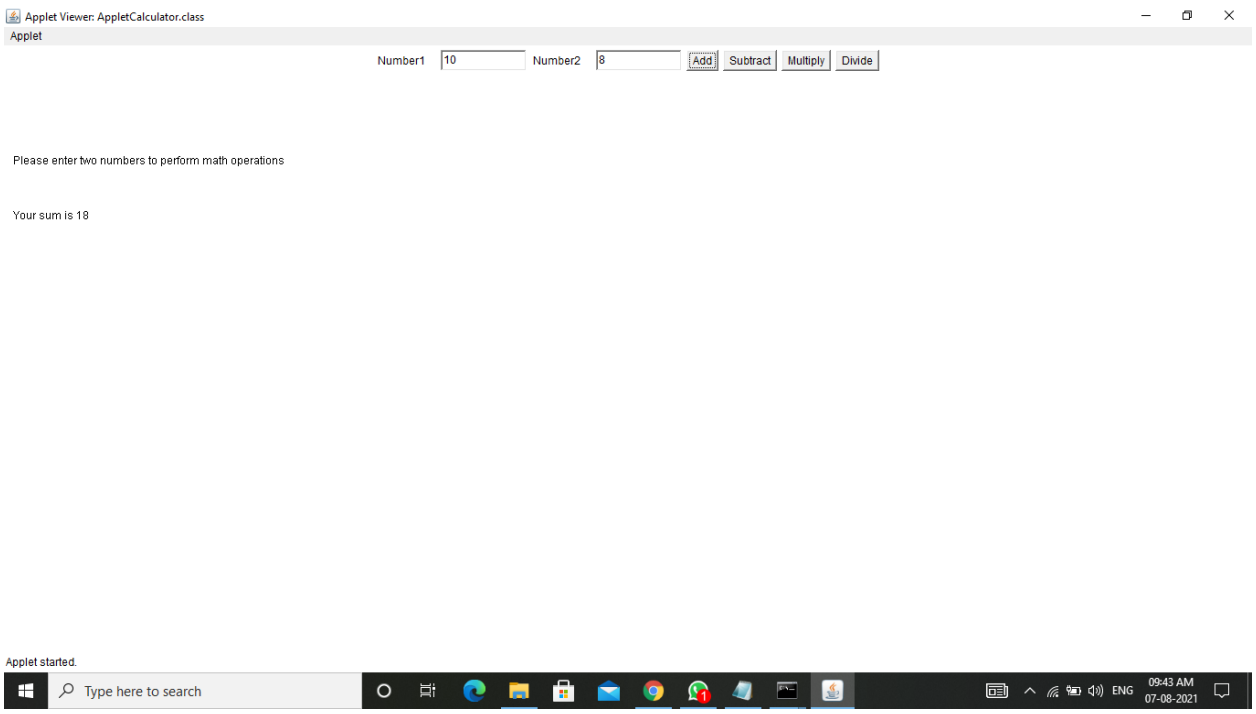
```
b1 = new Button("Add");
b2= new Button("Subtract");
b3 = new Button("Multiply");
b4= new Button("Divide");


add(label1);
add(tf1);

add(label2);
add(tf2);

add(b1);
add(b2);
add(b3);
add(b4);


tf1.addActionListener(this);
tf2.addActionListener(this);
b1.addActionListener(this);
b2.addActionListener(this);
b3.addActionListener(this);
b4.addActionListener(this);

}


public void actionPerformed(ActionEvent ae)
{
if(ae.getActionCommand().equals("Add") ||
ae.getActionCommand().equals("Subtract")
 ||ae.getActionCommand().equals("Multiply")
||ae.getActionCommand().equals("Divide"))
// checking if an event of clicking the add/subtract/multiply/divide button is
generated
{
```

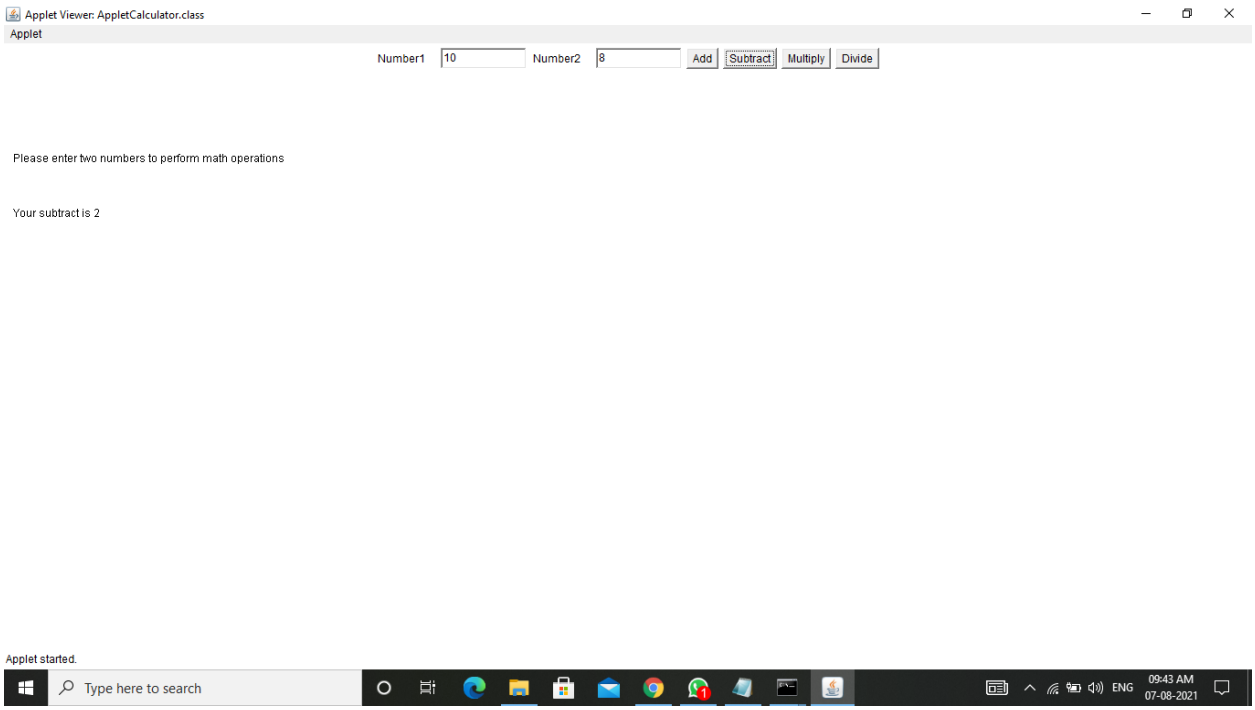
```
whichButtonClk=ae.getActionCommand(); //initializing whichButtonClk to a String value of Button which is clicked
repaint();
}
}

public void paint(Graphics g)
{
g.drawString("Please enter two numbers to perform math operations", 10,130);

if(tf1.getText().equals("") && tf2.getText().equals("")) //if the add button is clicked when textfields are empty
{
}
else
{
	Integer i1=  new Integer(tf1.getText());
	Integer i2= new Integer(tf2.getText());
	int sum = i1+i2;
	int subtract=i1-i2;
	int multiply=i1*i2;
	float divide=(float)i1/(float)i2; //Casting int to float, to get precise division of two values in float

	if(whichButtonClk.equals("Add"))
		g.drawString("Your sum is "+ sum, 10,190);
	if(whichButtonClk.equals("Subtract"))
		g.drawString("Your subtract is "+ subtract, 10,190);
	if(whichButtonClk.equals("Multiply"))
		g.drawString("Your multiply is "+ multiply, 10,190);
	if(whichButtonClk.equals("Divide"))
		g.drawString("Your divide is "+ divide, 10,190);
}
}


}
```

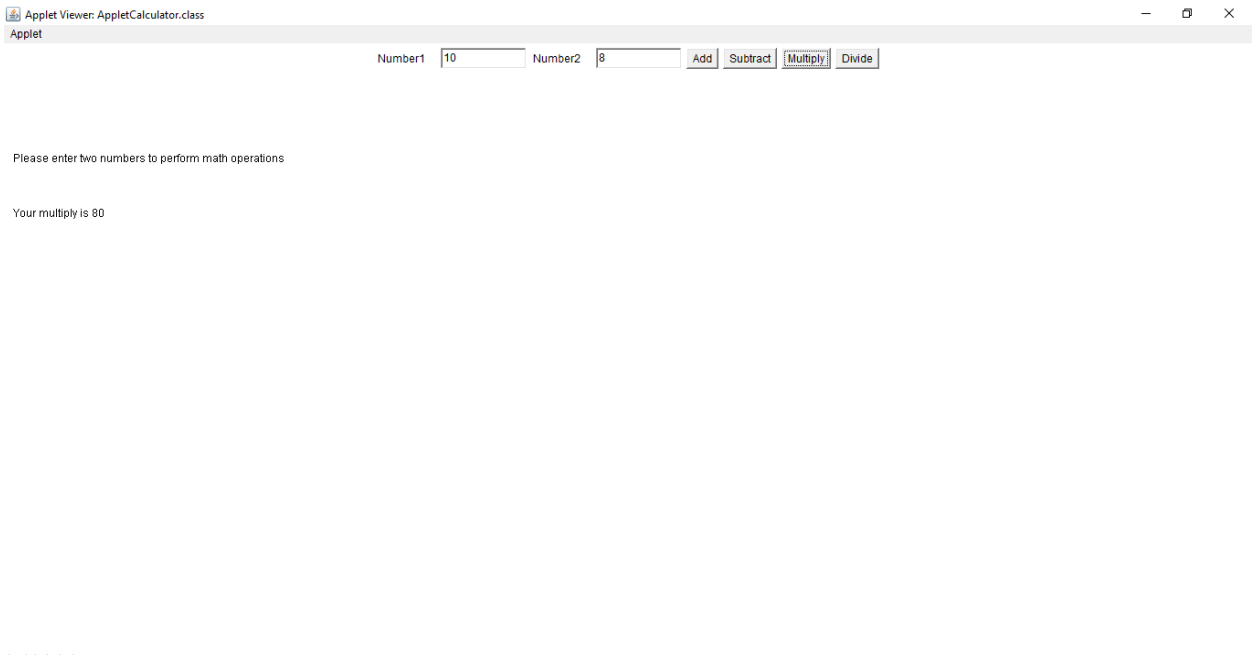
```
/*<APPLET code="AppletCalculator.class" width="200" height="150">
</APPLET>
*/
```

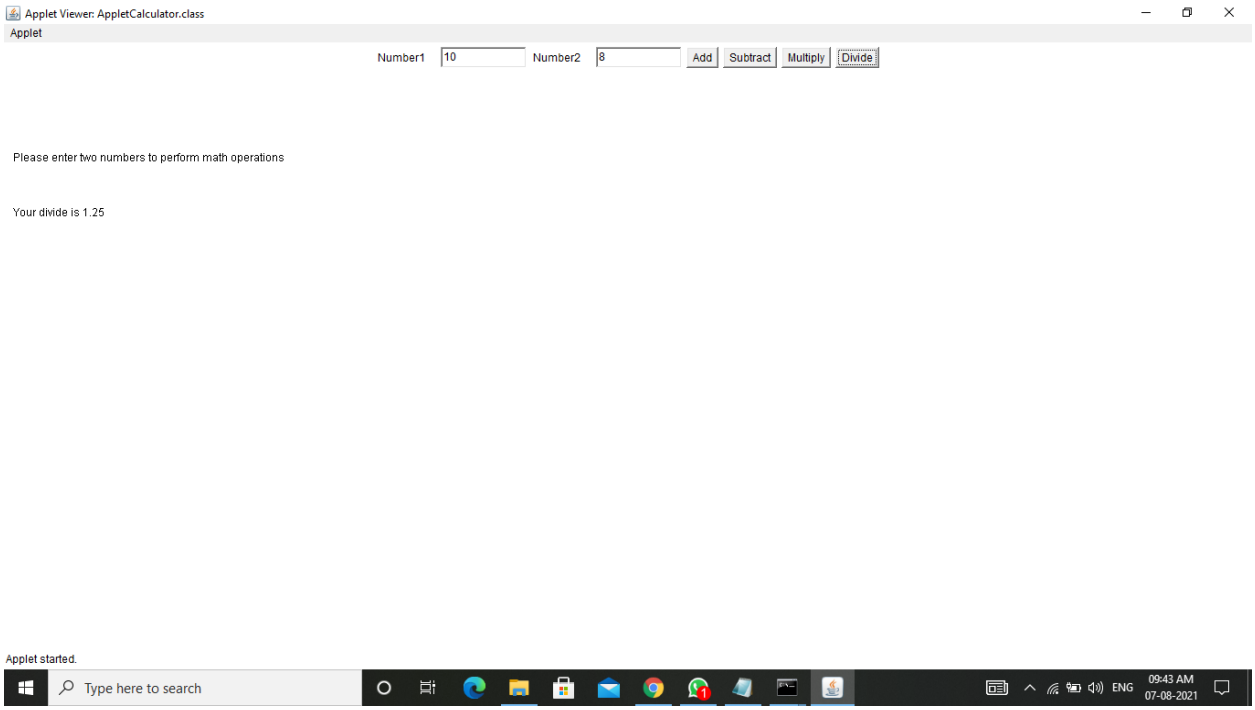
OUTPUT:-






Applet Viewer: AppletCalculator.class
Applet
Number1
10
Number2
8
Add
Subtract
Multiply
Divide
Please enter two numbers to perform math operations
Your subtract is 2
Applet started.
Type here to search
ENG
09:43 AM
07-08-2021





2. Write a program which writes the content on a file, save this file with your name, read this file and count the number of words in the file and print it in the console.

CODE:-

```
import java.io.*;
import java.io.IOException;
import java.util.*;


public class FileOrg {
  public static void main(String[] args) {
    try {
      File myObj = new File("filename");
      if (myObj.createNewFile())
      {
        System.out.println("File created with the name
" + myObj.getName());



        // To read the write content on the
File.....


        FileWriter myWriter = new FileWriter("file
name");
```

```
        System.out.println("Enter Content");
        Scanner input = new Scanner(System.in);
        String str = input.nextLine();
        myWriter.write(str);
        myWriter.close();

        // To show the output of the file.

        System.out.println("The content of the files
are as follows");
        String line = null;
        FileReader fileReader = new FileReader("file
name");

        BufferedReader bufferedReader = new
BufferedReader(fileReader);

        while((line = bufferedReader.readLine()) !=
null)
        {
```

```
            System.out.println(line);
        }
        bufferedReader.close();

    }
    else {
      System.out.println("File already exists.");
    }
  }
  catch (IOException e) {
    System.out.println("An error occurred.");
    e.printStackTrace();

  }
 }
}
```

OUTPUT:-

3. Write a program where client sends a string and server returns the reverse of the string Using TCP/IP Socket

```
import java.io.*;

import java.net.*;


public class Client extends Thread

{

String Message;

ServerSocket sock;

Client(int port) throws Exception

{

sock=new ServerSocket(port);
```

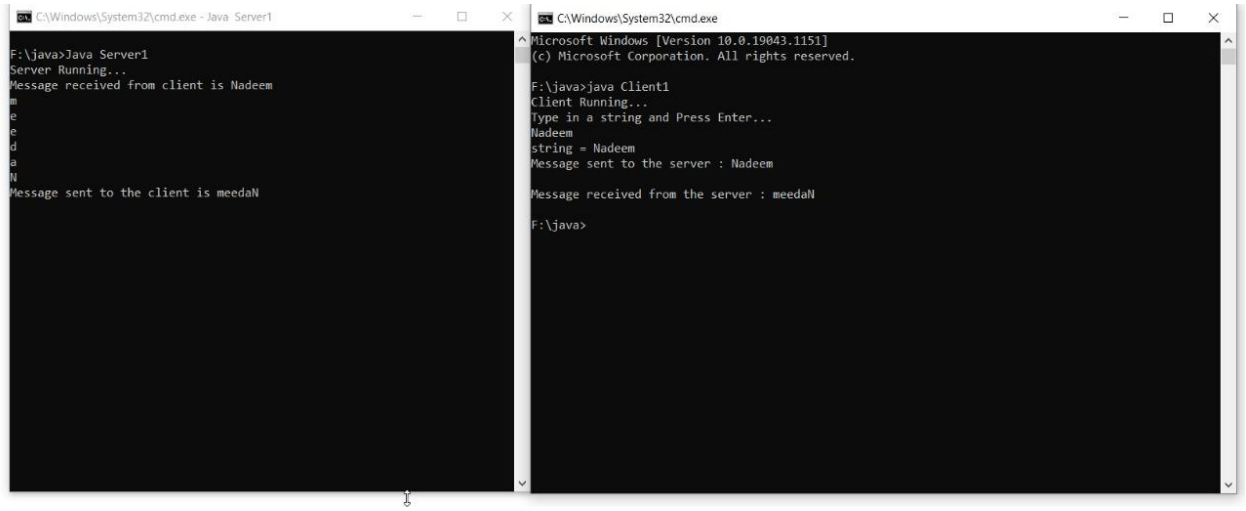
```
}


public void run()

{

try{Socket so=sock.accept();

while(true)

{

DataInputStream inp=new DataInputStream(System.in);

DataInputStream inn=new
DataInputStream(so.getInputStream());

DataOutputStream out=new
DataOutputStream(so.getOutputStream());

//System.out.println(inn.readUTF());

Message=inn.readUTF();

char []jp=new char[100];

char []jp2=new char[100];

int j=0;

jp=Message.toCharArray();

for(int i=jp.length-1;i>=0;i--)
```

```
{
jp2[j]=jp[i];
j++;
}
String rev=new String(jp2);
out.writeUTF(rev);
}
}
catch(Exception eee){}
}
public static void main(String[] args) throws
Exception
{
Thread t=new Client(Integer.parseInt(args[0]));
t.start();
}
}
```

```
import java.io.*;

import java.net.*;


public class Server

{

public static void main(String[] args) throws
Exception

{

String Message;

Socket so=new
Socket("localhost",Integer.parseInt(args[0]));

try{while(true)

{

DataInputStream inp=new DataInputStream(System.in);

DataInputStream inn=new
DataInputStream(so.getInputStream());

DataOutputStream out=new
DataOutputStream(so.getOutputStream());

Message=inp.readLine();
```

```
out.writeUTF(Message);

System.out.println(inn.readUTF());

}

}

catch(Exception eee){}



}



}
```

OUTPUT:-



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