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Java practical

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

```java
import java.awt.*;

import java.applet.*;

import java.awt.event.*;

public class Test extends Applet implements

ActionListener

{

Label label1, label2, label3;

TextField tf1, tf2, tf3;

Button b1, b2, b3, b4;

String whichButtonClk;

@Override

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");
```

```java
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);

event

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"))

if an event of clicking the add/subtract/multiply/divide
```

```java
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(""))
{
}
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);
```

```java
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);

    }

  }

}
```
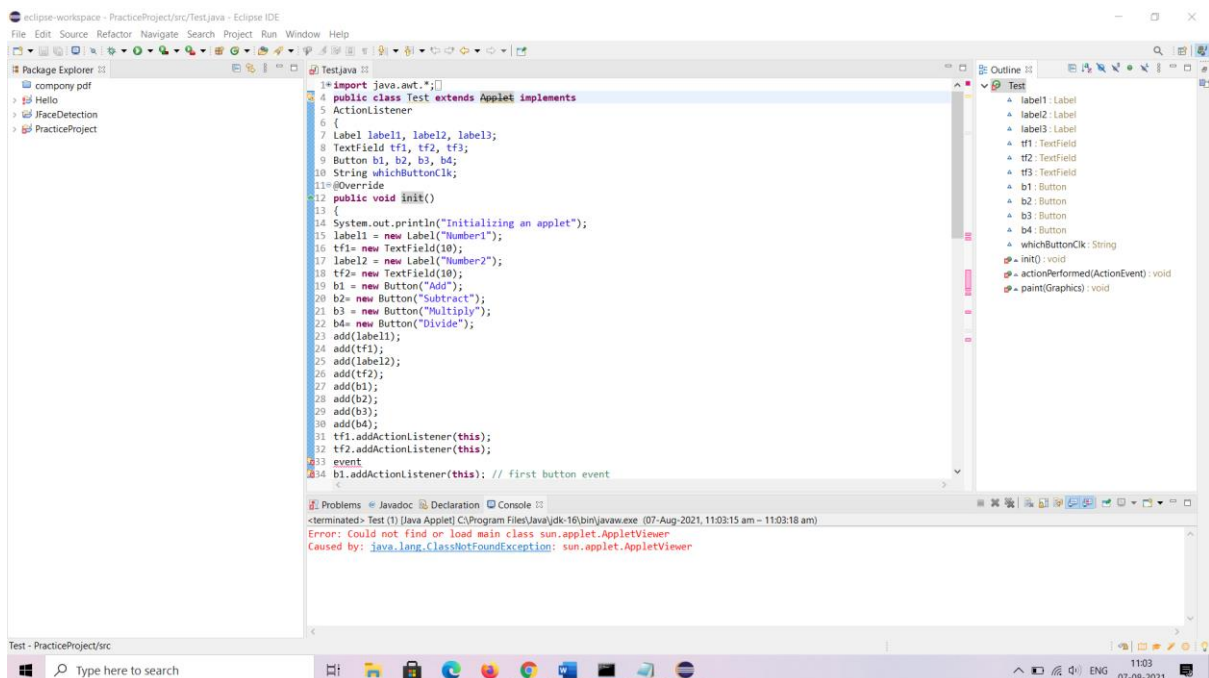

2.Write a program which writes the content on a file, save this file with your name, read this file and count the number of words in the file and print it in the console.

```java
import java.io.FileWriter;
```

```java
import java.io.IOException;

import java.io.File;

import java.io.BufferedReader;

import java.io.FileReader;

public class Countword1 {

  public static void main(String[] args) {


        String line;

      int count = 0;

    try {

      FileWriter myWriter = new FileWriter("filename.txt");

      myWriter.write("Files in Java might be tricky, but it is fun enough!");

      myWriter.close();

      System.out.println("Successfully wrote to the file.");

    } catch (IOException e) {

      System.out.println("An error occurred.");

      e.printStackTrace();

    }

        try

        {

File file=new File("filename.txt");

FileReader fr=new FileReader(file);

BufferedReader br=new BufferedReader(fr);

StringBuffer sb=new StringBuffer();


while((line=br.readLine())!=null)
```
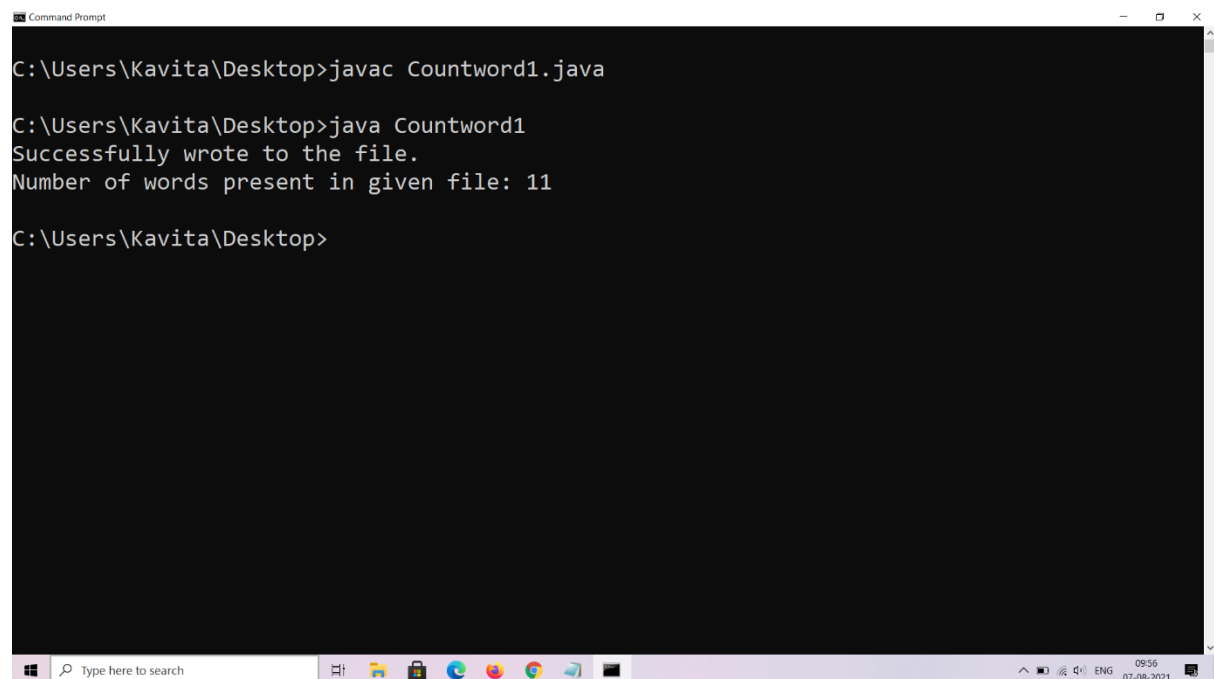
```java
{
String words[] = line.split(" ");
    count = count + words.length;
}
fr.close();

 System.out.println("Number  of words present in given file: " + count);
}
catch(IOException e)
{
e.printStackTrace();
}
  }
}
```

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

```java
//server
import java.net.*;

import java.io.*;

class Server{


    public static String reverseString(String str){

char ch[]=str.toCharArray();

String rev="";

for(int i=ch.length-1;i>=0;i--){

   rev+=ch[i];

}

return rev;

    }

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

ServerSocket ss=new ServerSocket(3333);

Socket s=ss.accept();

DataInputStream din=new DataInputStream(s.getInputStream());

DataOutputStream dout=new DataOutputStream(s.getOutputStream());

BufferedReader br=new BufferedReader(new InputStreamReader(System.in));


String str="";


str=din.readUTF();
```

```java
    String output = reverseString(str);


    dout.writeUTF(output);

    dout.flush();



    din.close();

    s.close();

    ss.close();

    }}


//Client
import java.net.*;
import java.io.*;
class  Client{
public static void main(String args[])throws Exception{
Socket s=new Socket("localhost",3333);
DataInputStream  din=new DataInputStream(s.getInputStream());
DataOutputStream dout=new DataOutputStream(s.getOutputStream());
BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));

String str="",str2="";
while(!str.equals("stop")){
dout.writeUTF(str);
dout.flush();
str2=din.readUTF();
```
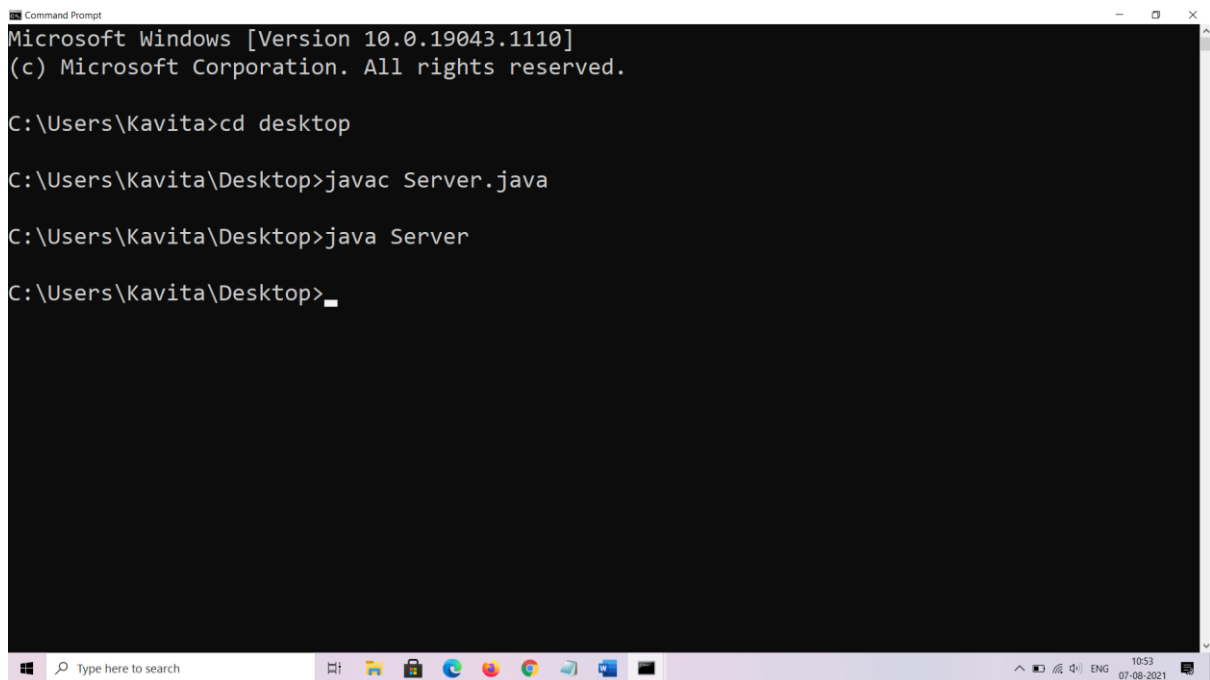
```java
System.out.println("Server says: "+str2);

}


dout.close();

s.close();

}}
```

```
Microsoft Windows [Version 10.0.19043.1110]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Kavita>cd desktop

C:\Users\Kavita\Desktop>javac Client.java

C:\Users\Kavita\Desktop>java Client
kavita
Server says: ativak
```