

Ex. No: 1

## **INHERITANCE**

Date :

### **AIM:**

To prepare circle and rectangle values for using inheritance.

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Include the java header file.

Step 3: Create the area of circle and area of rectangle  $(3.14 * r * r)$   $(a = l * b)$ .

Step 4: Open the switch case.

Step 5: Save the program using java extension.

Step 6: Run the program in command prompt.

Step 7: Stop the process.

## PROGRAM CODING:

```
import java.io.*;
class outerclass
{
double a;
void area(double r)
{
a=3.14*r*r;
}

void area(double l, double b)
{
a=l*b;
}

void result()
{
innerclass in=new innerclass();
in.display();
}

class innerclass
{
void display()
{
System.out.println(a);
}
}

class inheritclass extends outerclass
{
void label(String str)
{
System.out.print("\t"+str);
}
}
```

```

public class prog1
{
    public static void main(String args[]) throws Exception
    {
        inheritclass in=new inheritclass();
        DataInputStream inp=new DataInputStream(System.in);

        while(true)
        {
            System.out.println("options");
            System.out.println("1.area of circle");
            System.out.println("2.area of rectangle");
            System.out.println("3.exit");
            System.out.println("enter your choice");
            int ch=Integer.parseInt(inp.readLine());

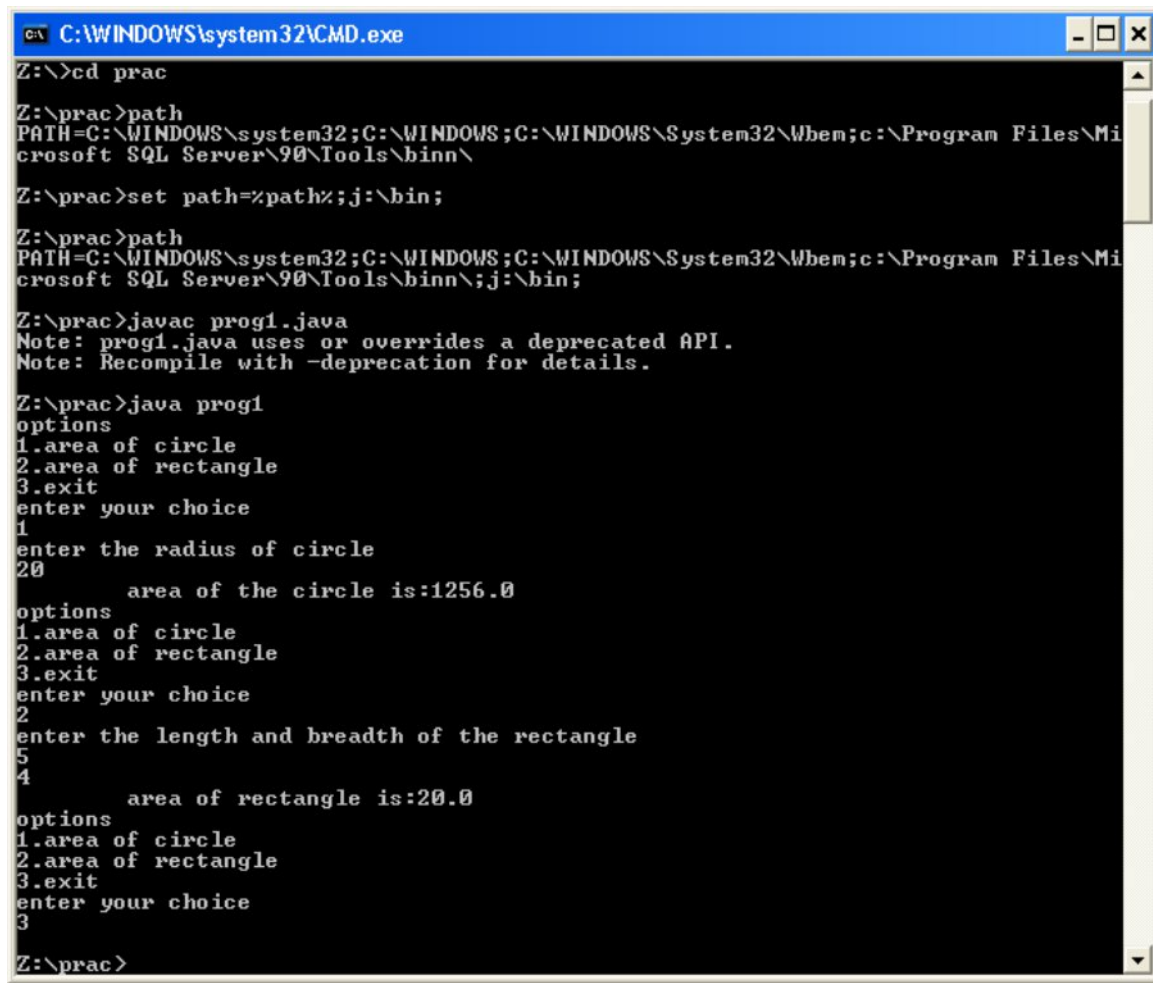
            switch(ch)
            {
                case 1:
                System.out.println("enter the radius of circle");
                double r=Double.parseDouble(inp.readLine());
                in.area(r);
                in.label("area of the circle is:");
                in.result();
                break;

                case 2:
                System.out.println("enter the length and breadth of the rectangle");
                double l=Double.parseDouble(inp.readLine());
                double b=Double.parseDouble(inp.readLine());
                in.area(l,b);
                in.label("area of rectangle is:");
                in.result();
                break;

                case 3:
                System.exit(0);
                default:
                System.out.println("invalid option.....");
            }
        }
    }
}

```

## OUTPUT:



```
C:\WINDOWS\system32\CMD.exe
Z:\>cd prac
Z:\prac>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\
Z:\prac>set path=%path%;j:\bin;
Z:\prac>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\;j:\bin;
Z:\prac>javac prog1.java
Note: prog1.java uses or overrides a deprecated API.
Note: Recompile with -deprecation for details.
Z:\prac>java prog1
options
1.area of circle
2.area of rectangle
3.exit
enter your choice
1
enter the radius of circle
20
    area of the circle is:1256.0
options
1.area of circle
2.area of rectangle
3.exit
enter your choice
2
enter the length and breadth of the rectangle
5
4
    area of rectangle is:20.0
options
1.area of circle
2.area of rectangle
3.exit
enter your choice
3
Z:\prac>
```

## RESULT:

Ex. No: 2

## **MOUSE EVENTS**

Date :

### **AIM:**

To create a java program to handle with different mouse event.

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Declare the class and save the file with class name.

Step 3: Declare the Functions. s

Step 4: Save and execute the program.

Step 5: Stop the process

## PROGRAM CODING:

```
//<applet code=prog2.class width=400 height=400></applet>
import java.io.*;
import java.awt.*;
import java.awt.event.*;
import java.applet.*;

public class prog2 extends Applet implements MouseListener, MouseMotionListener
{
    int x,y;
    String action="";

    public void init()
    {
        addMouseListener(this);
        addMouseMotionListener(this);
    }

    public void mouseDragged(MouseEvent me)
    {
        x=me.getX();
        y=me.getY();
        action="Mouse Dragged Event";
        repaint();
    }

    public void mouseMoved(MouseEvent me)
    {
        x=me.getX();
        y=me.getY();
        action="Mouse Moved Event";
        repaint();
    }

    public void mouseClicked(MouseEvent me)
    {
        x=me.getX();
        y=me.getY();
        action="Mouse Clicked Event";
        repaint();
    }
}
```

```
public void mouseReleased(MouseEvent me)
{
    x=me.getX();
    y=me.getY();
    action="Mouse Released Event";
    repaint();
}
```

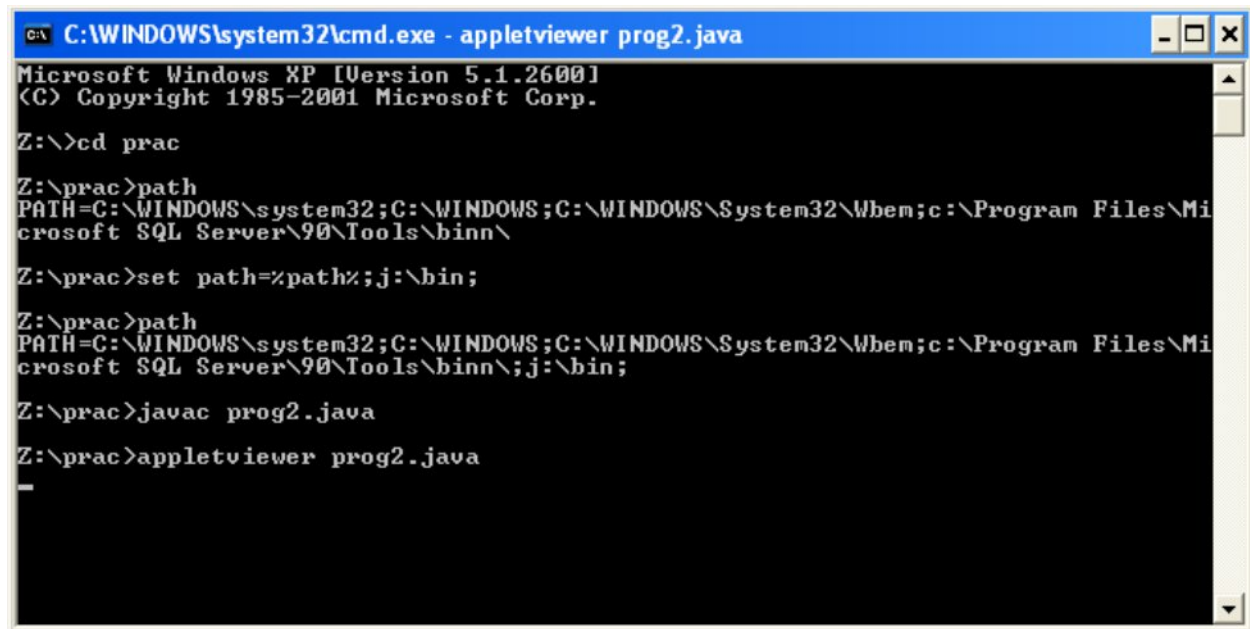
```
public void mouseExited(MouseEvent me)
{
    x=me.getX();
    y=me.getY();
    action="Mouse Exited Event";
    repaint();
}
```

```
public void mouseEntered(MouseEvent me)
{
    x=me.getX();
    y=me.getY();
    action="Mouse Entered Event";
    repaint();
}
```

```
public void mousePressed(MouseEvent me)
{
    x=me.getX();
    y=me.getY();
    action="Mouse Pressed Event";
    repaint();
}
```

```
public void paint(Graphics g)
{
    g.drawString(action + "at X: " + " Y:" + y, x, y);
}
}
```

## OUTPUT:



```
C:\WINDOWS\system32\cmd.exe - appletviewer prog2.java
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

Z:\>cd prac

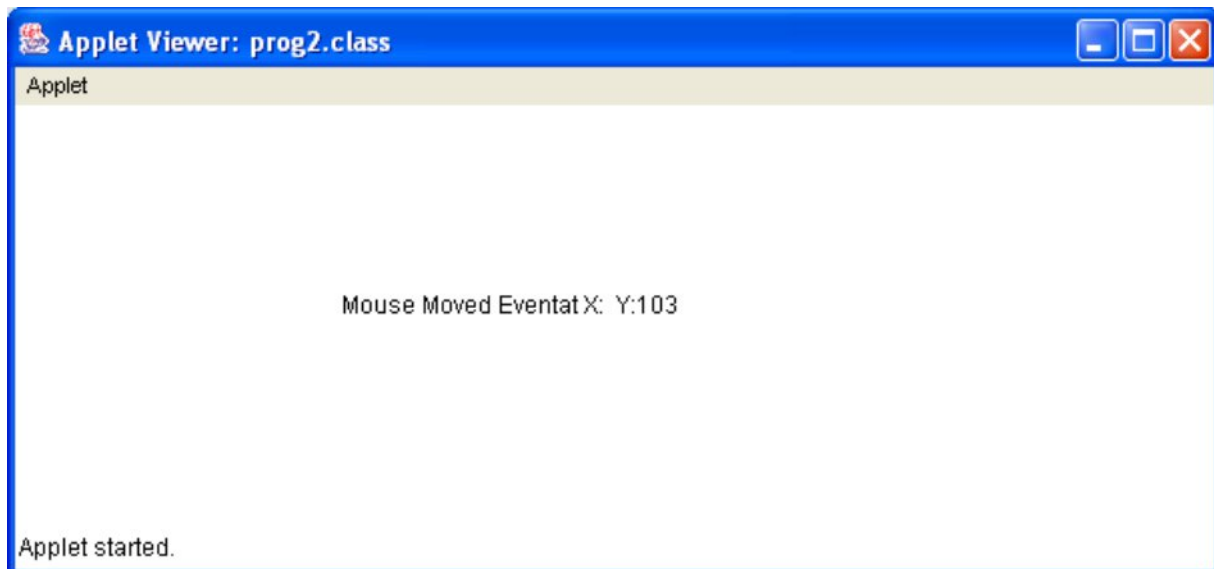
Z:\prac>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\

Z:\prac>set path=%path%;j:\bin;

Z:\prac>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\;j:\bin;

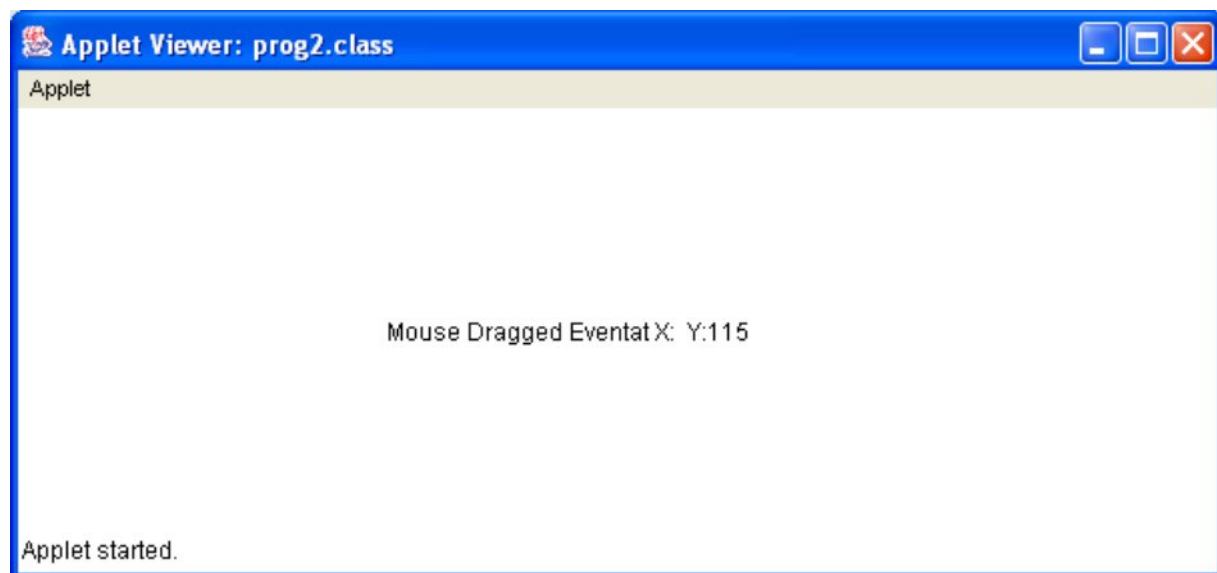
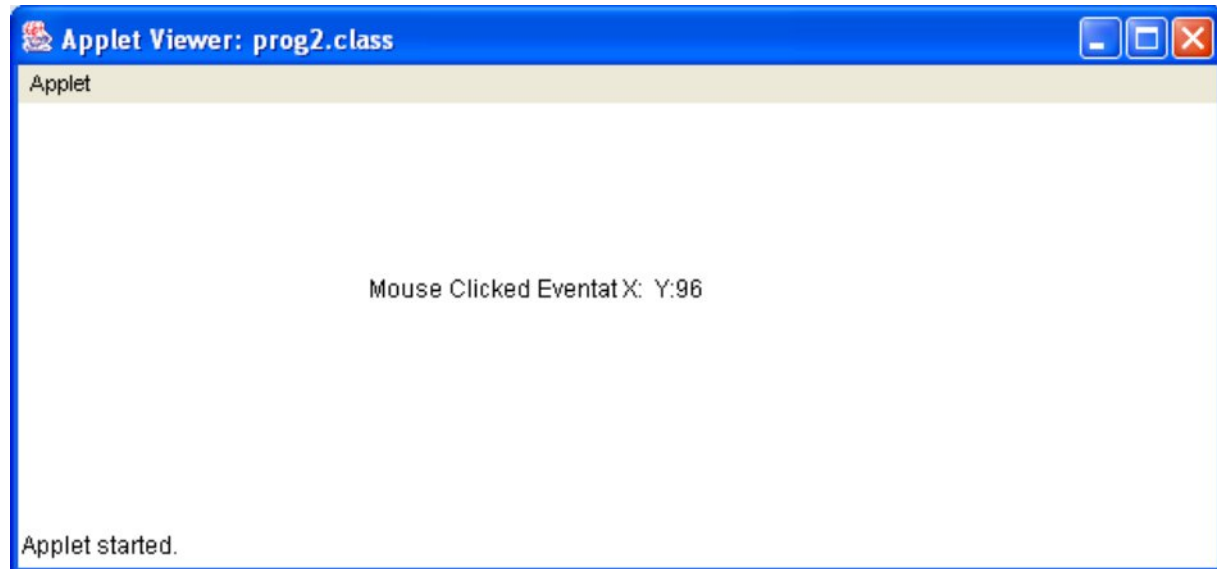
Z:\prac>javac prog2.java

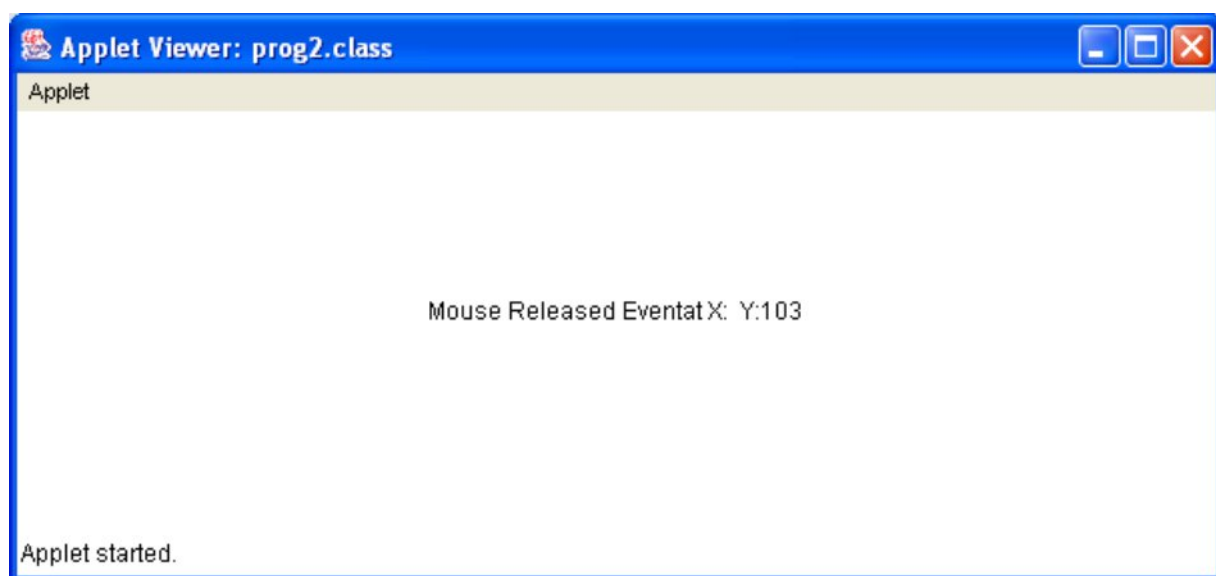
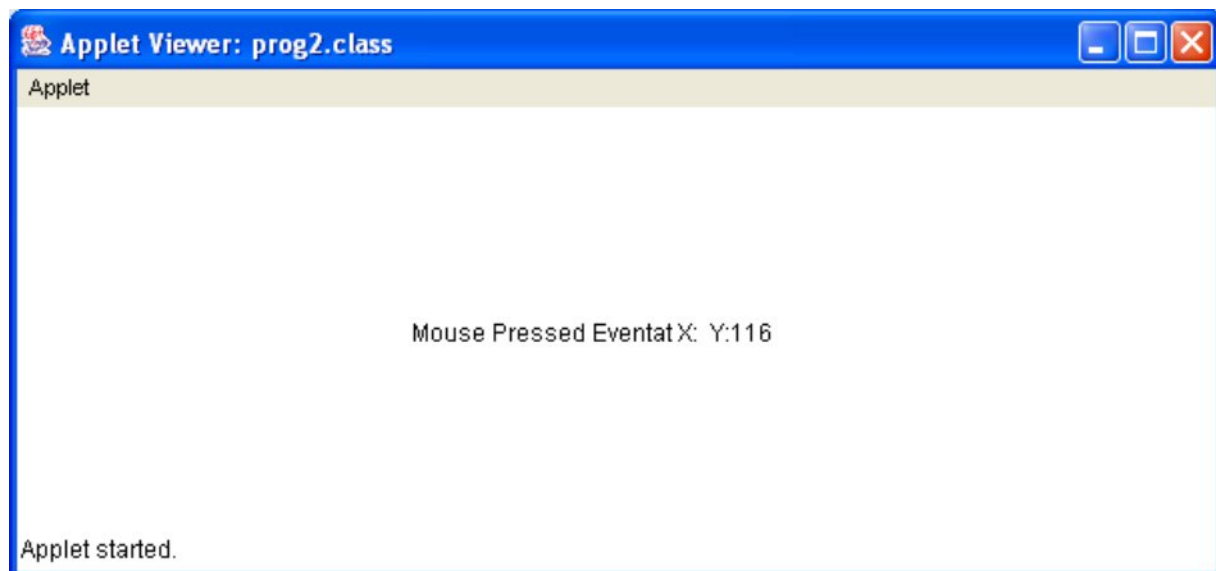
Z:\prac>appletviewer prog2.java
_
```



```
Applet Viewer: prog2.class
Applet
Mouse Moved Event at X: Y:103
Applet started.
```







**RESULT:**

Ex. No: 3

## **CALCULATOR**

Date :

### **AIM:**

To write a java program to create a calculator using applet programming.

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Include header file for java program.

Step 3: Create buttons such as add, sub, mul, div, clear, mod, using applet.

Step 4: Set Background and Grid layout for the text field.

Step 5: Get Action command is used to create events for the buttons.

Step 6: Save and run the process.

Step 7: The Calculator is displayed using applet.

Step 8: Stop the process.

## PROGRAM CODING:

```
/*<applet code="prog3.class" width=150 height=175></applet>*/
import java.io.*;
import java.awt.*;
import java.awt.event.*;
import java.applet.*;

public class prog3 extends Applet implements ActionListener
{
    TextField tf;
    Button digits[]=new Button[10];
    Button others[]=new Button[11];
    String oper[]={".","+", "-", "*", "/", "1/x", "+/-", "sqrt", "AC", "%", "="};
    int i,opt=0;
    double pval,cval,res;
    Panel p1;

    public void init()
    {
        tf=new TextField(15);
        setLayout(new BorderLayout());
        add(tf,BorderLayout.NORTH);
        p1=new Panel();
        p1.setLayout(new GridLayout(5, 5));

        for(i=0; i<=9; i++)
        {
            digits[i]=new Button(""+i);
            p1.add(digits[i]);
            digits[i].addActionListener(this);
        }

        for(i=0;i<oper.length;i++)
        {
            others[i]=new Button(oper[i]);
            p1.add(others[i]);
            others[i].addActionListener(this);
        }
        add(p1,BorderLayout.CENTER);
    }

    public void actionPerformed(ActionEvent ae)
    {
        Object obj=ae.getSource();
```

```

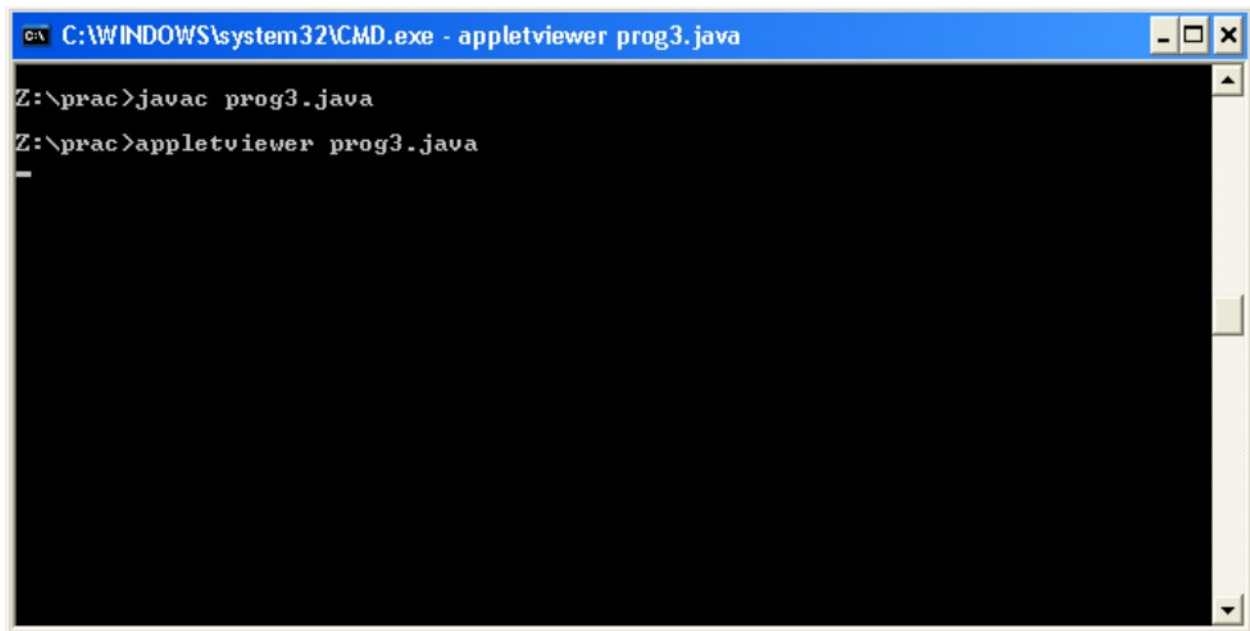
for(i=0;i<=9;i++)
{
if(obj==digits[i])
tf.setText(tf.getText()+i);
}
if(obj==others[0])
{
tf.setText(tf.getText()+".");
others[0].setEnabled(false);
}

for(i=0;i<10;i++)
{
if(obj==others[i] && obj != others[9])
{
opt=i;
pval=Double.parseDouble(tf.getText());
tf.setText("");
others[0].setEnabled(true);
}
else if(obj==others[0] || obj == others[10] || opt>4)
{
others[0].setEnabled(true);
}

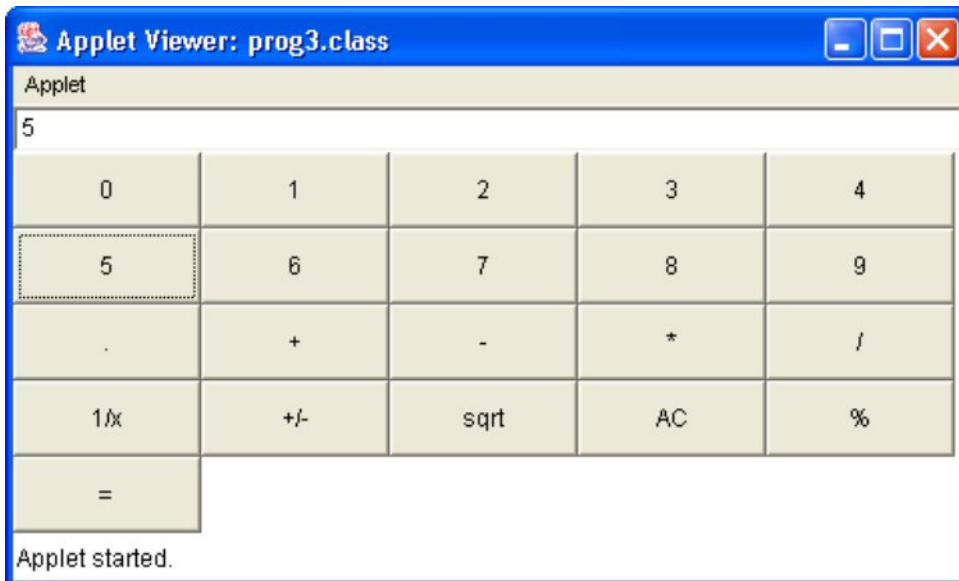
switch(opt)
{
case 1:cval=Double.parseDouble(tf.getText());res=pval+cval;break;
case 2:cval=Double.parseDouble(tf.getText());res=pval-cval;break;
case 3:cval=Double.parseDouble(tf.getText());res=pval*cval;break;
case 4:cval=Double.parseDouble(tf.getText());res=pval/cval;break;
case 5:res=1/pval;break;
case 6:res=(-1)*pval;break;
case 7:res=Math.sqrt(pval);break;
case 8:res=0;break;
case 9:res=pval=pval/100.0;break;
}
if(res!=0)
tf.setText(""+res);
pval=0;
}
}
}

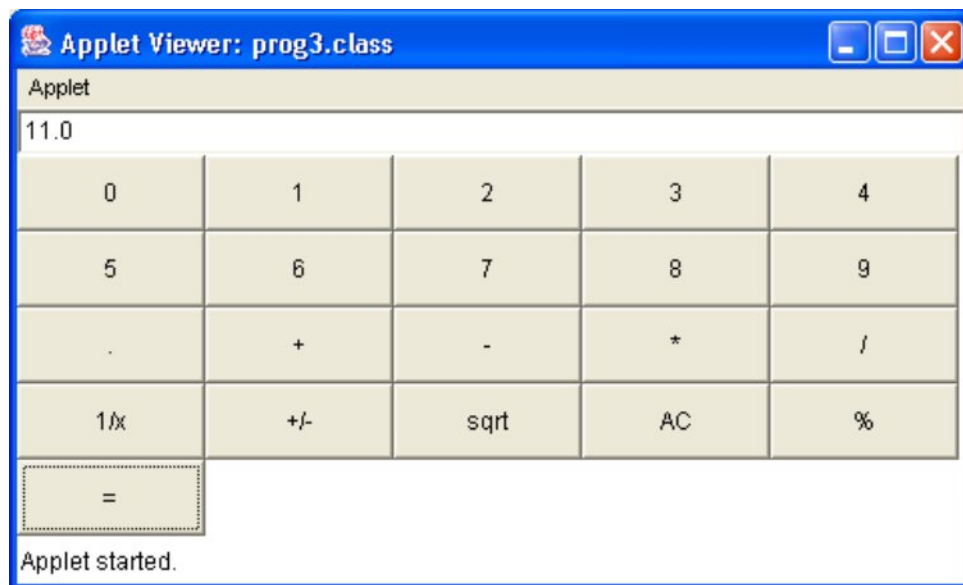
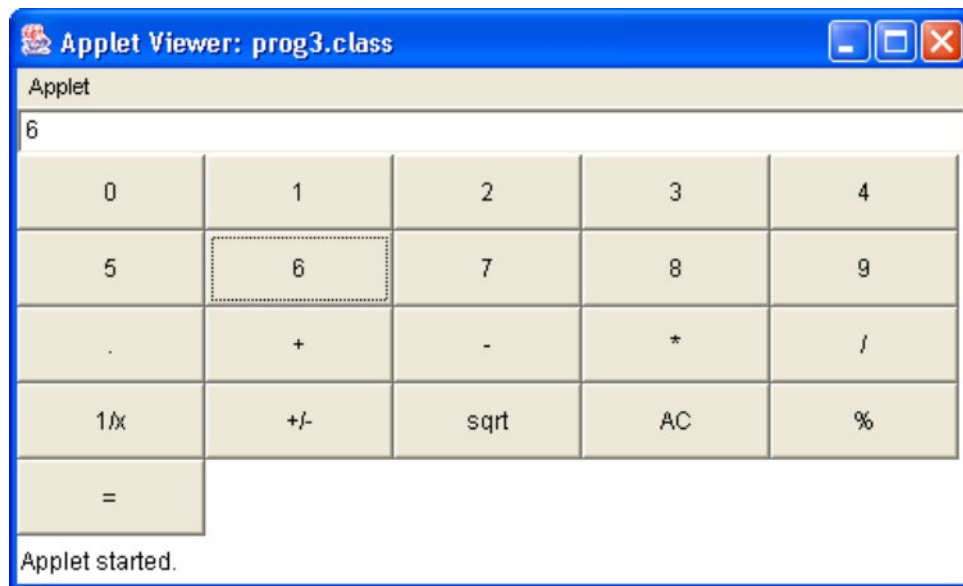
```

## OUTPUT:



```
C:\WINDOWS\system32\CMD.exe - appletviewer prog3.java
Z:\prac>javac prog3.java
Z:\prac>appletviewer prog3.java
```





**RESULT:**

Ex. No: 4

## **ANIMATING OBJECTS**

Date :

### **AIM:**

To create a java program to animate objects at different intervals

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Declare the class and save the file with class name.

Step 3: Declare the functions.

Step 4: Save and execute the program.

Step 5: Stop the process.



## PROGRAM CODING:

```
/*<applet code="prog4.class" width=400 height=400></applet>*/
import java.io.*;
import java.awt.*;
import java.applet.*;

public class prog4 extends Applet implements Runnable
{
    Thread t;
    int direct=0, x=0, y=0;

    public void start()
    {
        if(t==null)
        {
            t=new Thread(this);
            t.start();
        }
    }

    public void stop()
    {
        t.stop();
        t=null;
    }

    public void run()
    {
        while(true)
        {
            t.setPriority(5);
            ballAnimate();
            try
            {
                Thread.sleep(20);
            }
            catch(Exception ex)
            {}
            squareAnimate();
            repaint();
        }
    }

    public void ballAnimate()
    {
        if(direct==0)
```

```
{  
x++;  
if(x==200) direct=1;  
}  
else  
{  
x--;  
if(x==0)direct=0;  
}  
}
```

```
public void squareAnimate()  
{  
if(direct==0)  
{  
y++;  
if(y==200) direct=1;  
}  
else  
{  
y--;  
if(y==0) direct=0;  
}  
}
```

```
public void paint (Graphics g)  
{  
g.setXORMode(getBackground());  
setForeground(new Color(120,120,230));  
g.fillOval(10,y,20,30);  
g.fillRect(x,10,20,30);  
}  
}
```

## OUTPUT:

```
C:\WINDOWS\system32\CMD.exe - appletviewer prog4.java
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

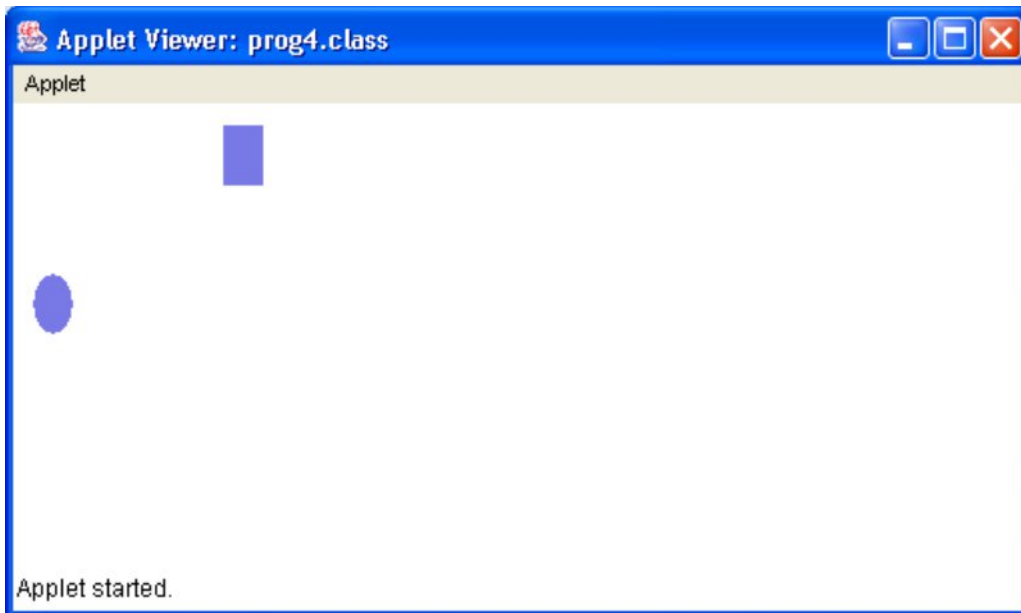
Z:\>cd prac

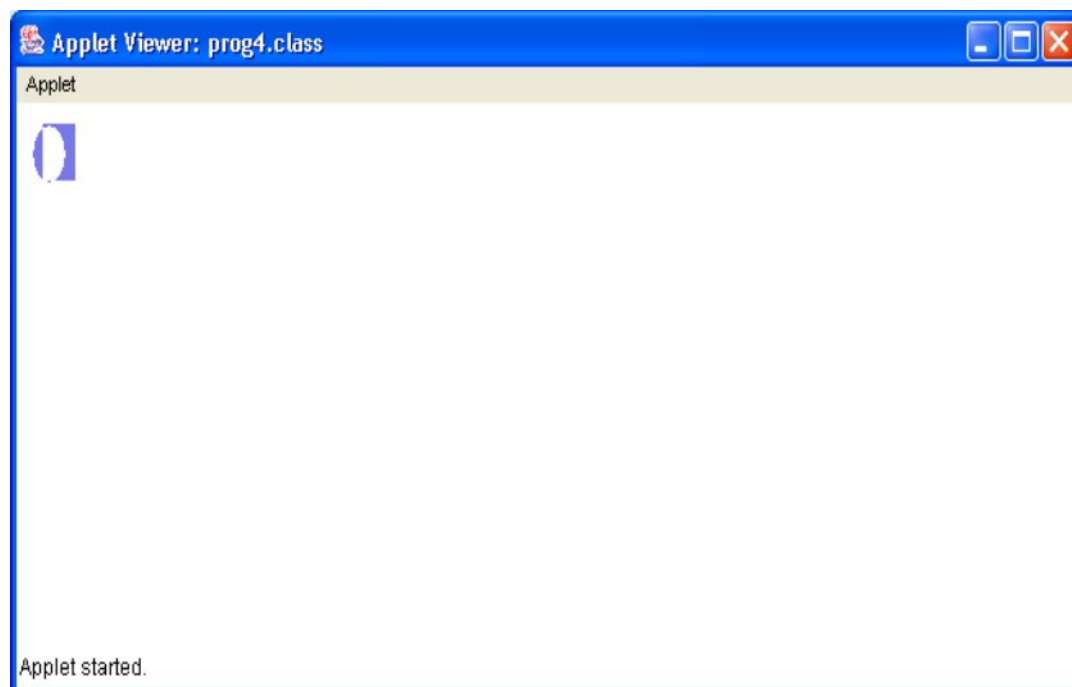
Z:\prac>set path=%path%;j:\bin;

Z:\prac>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\j:\bin;

Z:\prac>javac prog4.java
Note: prog4.java uses or overrides a deprecated API.
Note: Recompile with -deprecation for details.

Z:\prac>appletviewer prog4.java
-
```





**RESULT:**

Ex. No: 5

## **ANALOG CLOCK**

Date :

### **AIM:**

To write a applet program to create the analog clock.

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Include the header file.

Step 3: Create the object class and functions.

Step 4: Add the width and height.

Step 5: Include the angle, radius and line.

Step 6: Save the program with extension java.

Step 7: Run with applet viewer.

Step 8: Stop the process.

## PROGRAM CODING:

```
//<applet code="prog5.class" width="600" height="500"></applet>
```

```
import java.applet.*;
```

```
import java.awt.*;
```

```
import java.util.*;
```

```
import java.text.*;
```

```
public class prog5 extends Applet implements Runnable
```

```
{
```

```
int width,height;
```

```
Thread t=null;
```

```
boolean threadSuspended;
```

```
int hours=0,minutes=0,seconds=0;
```

```
String timeString= "";
```

```
public void init()
```

```
{
```

```
width=getSize().width;
```

```
height=getSize().height;
```

```
setBackground(Color.black);
```

```
}
```

```
public void start()
```

```
{
```

```
if(t==null)
```

```
{
```

```
t=new Thread(this);
```

```
t.setPriority(Thread.MIN_PRIORITY);
```

```
threadSuspended=false;
```

```
t.start();
```

```
}
```

```
else
```

```
{
```

```
if(threadSuspended)
```

```
{
```

```
threadSuspended=false;
```

```
synchronized(this)
```

```
{
```

```
notify();
```

```
}
```

```
}  
}  
}
```

```
public void stop()  
{  
threadSuspended=true;  
}
```

```
public void run()  
{  
try  
{
```

```
while(true)  
{  
Calendar cal=Calendar.getInstance();  
hours=cal.get(Calendar.HOUR_OF_DAY);  
if(hours>12)hours=hours-12;  
minutes=cal.get(Calendar.MINUTE);  
seconds=cal.get(Calendar.SECOND);  
SimpleDateFormat  
formatter=new SimpleDateFormat ("hh:mm:sss",Locale.getDefault());  
timeString=formatter.format(cal.getTime());
```

```
if(threadSuspended)  
{  
synchronized(this)  
{
```

```
while(threadSuspended)  
{  
wait();  
}  
}  
repaint();  
t.sleep(1000);  
}  
}
```

```
catch(Exception e)  
{  
}
```

```

    }

void drawHand(double angle,int radius,Graphics g)
{
angle=0.5*Math.PI;
int x=(int)(radius*Math.cos(angle));
int y=(int)(radius*Math.sin(angle));
g.drawLine(width/2,height/2,width/2+x,height/2+y);
}

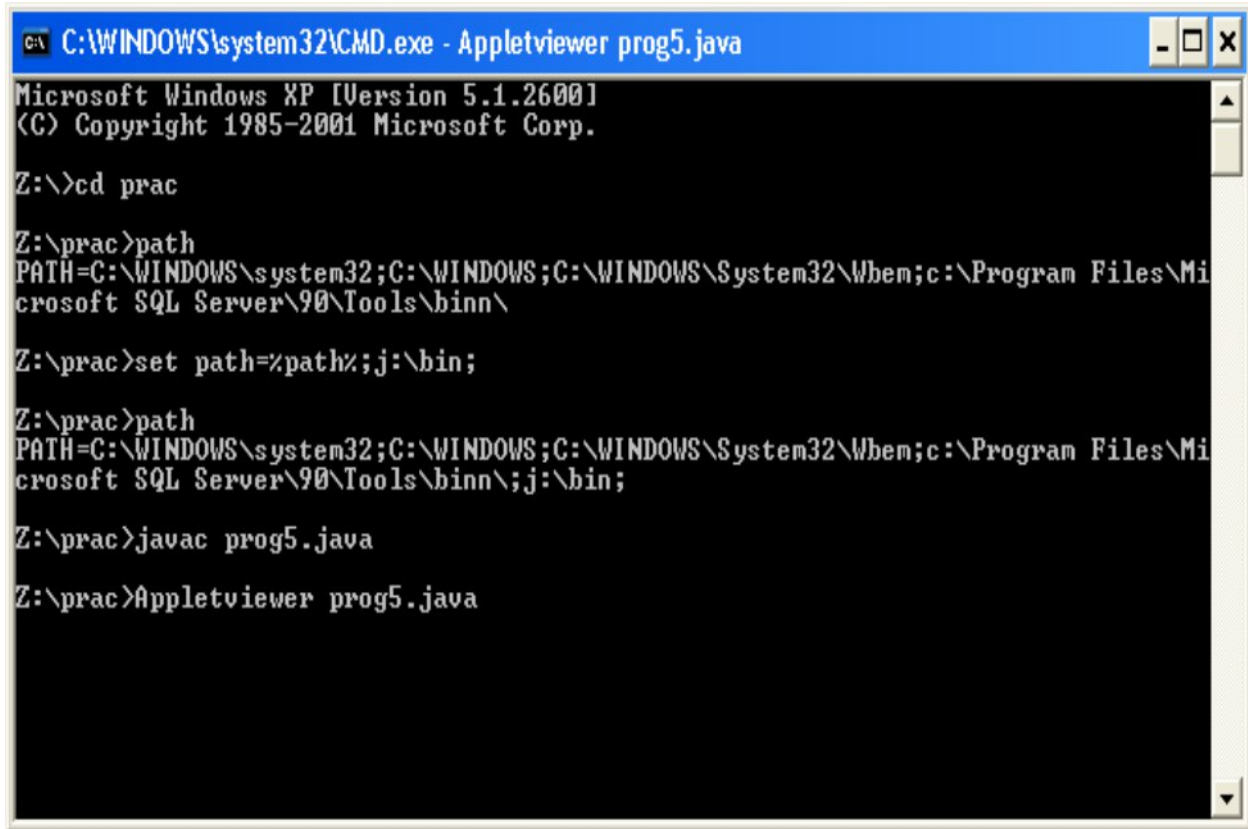
void drawwedge(double angle,int radius,Graphics g)
{
angle-=0.5*Math.PI;
int x=(int)(radius*Math.cos(angle));
int y=(int)(radius*Math.sin(angle));
angle+=0.5*Math.PI/3;
int x2=(int)(5*Math.cos(angle));
int y2=(int)(5*Math.sin(angle));
angle+=2*Math.PI/3;
angle+=2*Math.PI/3;
int x3=(int)(5*Math.cos(angle));
int y3=(int)(5*Math.sin(angle));
g.drawLine(width/2+x2,height/2+y2,width/2+x,height/2+y);
g.drawLine(width/2+x3,height/2+y3,width/2+x,height/2+y);
g.drawLine(width/2+x2,height/2+y2,width/2+x3,height/2+y3);
}

public void paint(Graphics g)
{
g.setColor(Color.gray);
drawwedge(2*Math.PI*hours/12,width/5,g);
drawwedge(2*Math.PI*minutes/60,width/3,g);
drawwedge(2*Math.PI*seconds/60,width/2,g);
g.setColor(Color.red);
g.fillOval(width/2-10,height/2-10,20,20);
g.drawString(timeString,10,height-10);
g.drawString("12",width/2,10);
g.drawString("9",10,height/2);
g.drawString("3",width-20,height/2);
g.drawString("6",width/2,height-10);
}

```



## OUTPUT:



```
C:\WINDOWS\system32\CMD.exe - Appletviewer prog5.java
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

Z:\>cd prac

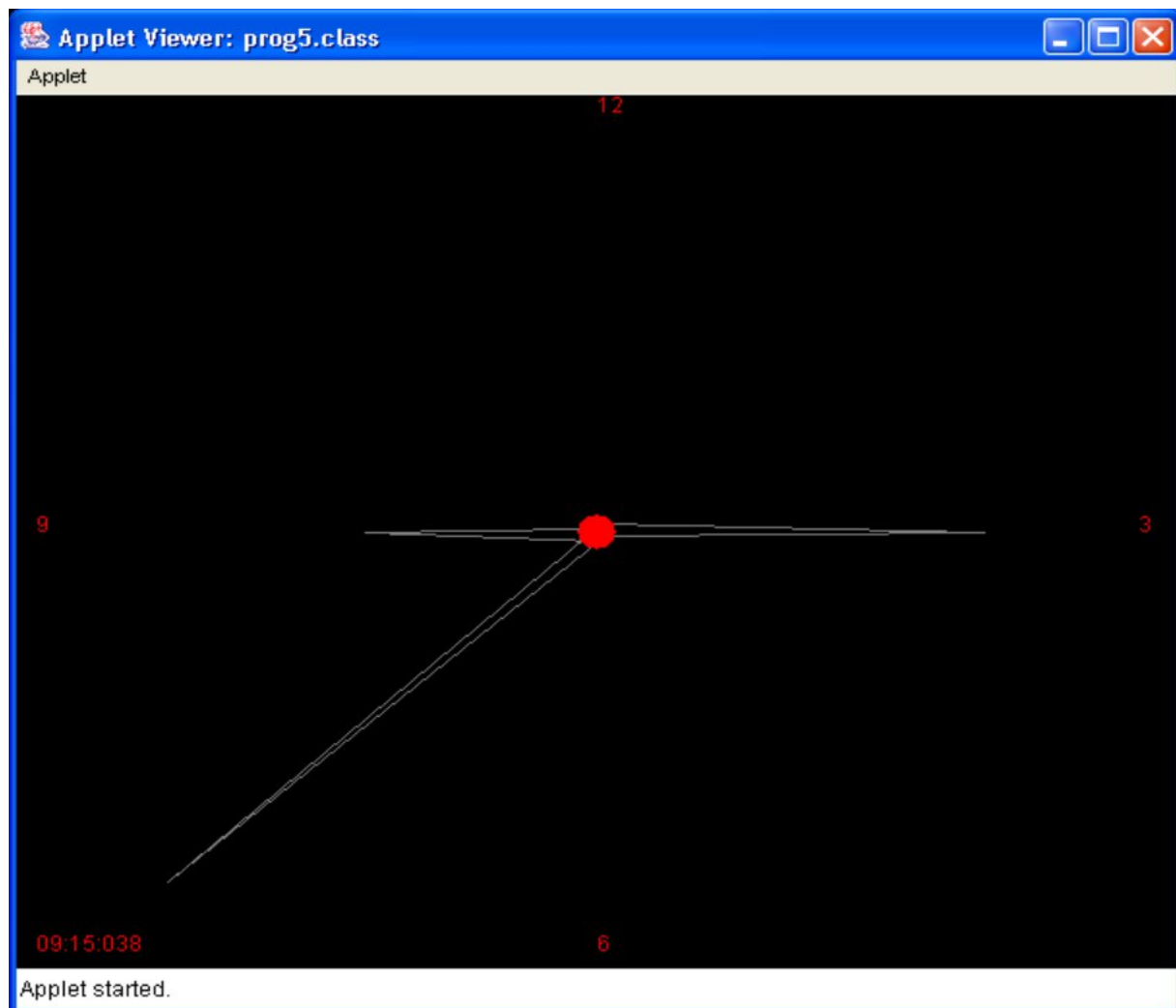
Z:\prac>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\

Z:\prac>set path=%path%;j:\bin;

Z:\prac>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\;j:\bin;

Z:\prac>javac prog5.java

Z:\prac>Appletviewer prog5.java
```



**RESULT:**

Ex. No: 6

## **READING TEXT FILE**

Date :

### **AIM:**

To write a java program to create the reading text file using java coding.

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Include the header file for java program.

Step 3: Open the class and include the objects.

Step 4: Save the file with java extension.

Step 5: Run the program in command prompt.

Step 6: Stop the process.

## PROGRAM CODING:

```
import java.io.*;
import java.lang.*;
class prog6
{

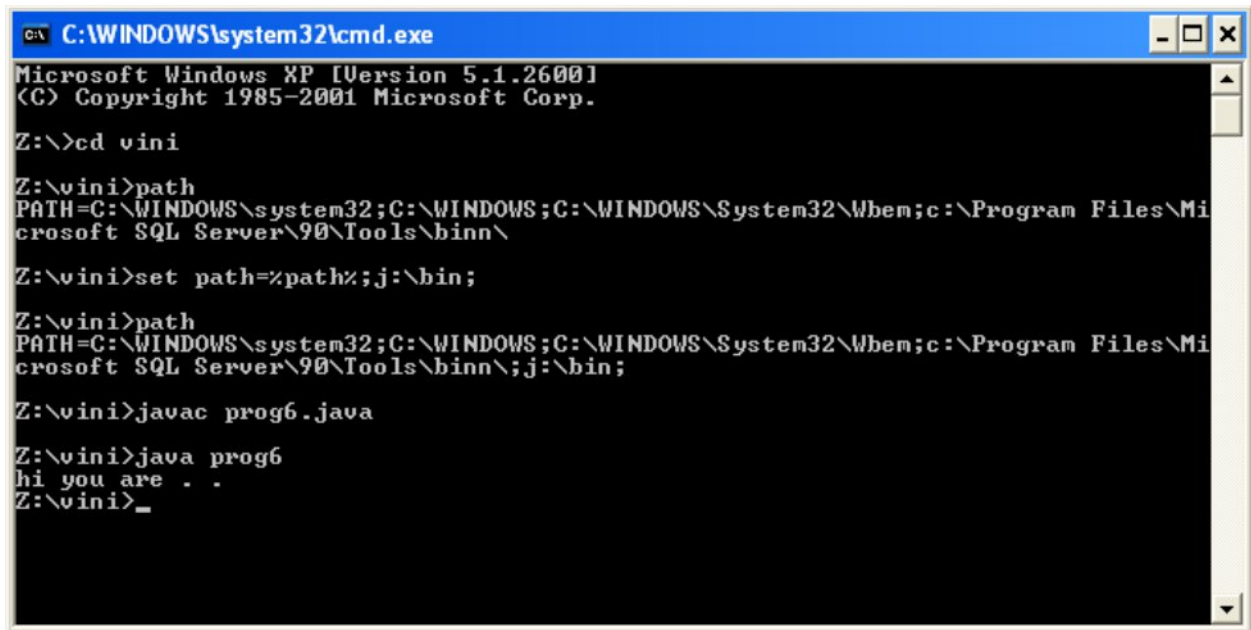
    public static void main(String args[])throws Exception
    {
        String words[]={ "idiot","stupit","fool"};
        FileInputStream fis=new FileInputStream("bw.txt");
        int c,i,flag=0;
        String str=" ";

        while ((c=fis.read())!=-1)
        {
            flag=0;

            if((char)c==' '||(char)c=='\n'||(char)c=='.')
            {
                for(i=0;i<words.length;i++)
                {
                    str=str.trim();
                    if(str.equalsIgnoreCase(words[i])) flag=1;
                }

                if (flag==0)
                    System.out.print(str+" ");
                str=" ";
            }
            str=str+(char)c;
        }
    }
}
```

## OUTPUT:



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

Z:\>cd vini

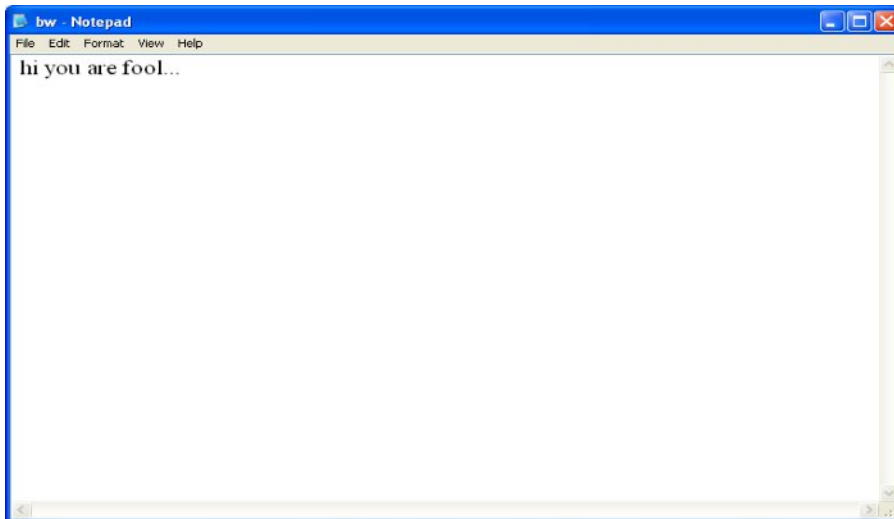
Z:\vini>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\

Z:\vini>set path=%path%;j:\bin;

Z:\vini>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\;j:\bin;

Z:\vini>javac prog6.java

Z:\vini>java prog6
hi you are . .
Z:\vini>_
```



```
bw - Notepad
File Edit Format View Help
hi you are fool...
```

## RESULT:

Ex. No: 7

## **SORTING NUMBERS**

Date :

### **AIM:**

To write a program for sorting numbers and

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Include the header file.

Step 3: Open the arguments, class and objects.

Step 4: Save the program using java extension.

Step 5: Run the program in command prompt.

Step 6: Stop the process.

## PROGRAM CODING:

```
import java.io.*;
import java.util.*;
class sorting
{
public static void main(String arg[]) throws IOException
{
System.out.println("Enter the number of Element");
BufferedReader sc=new BufferedReader(new InputStreamReader(System.in));
int n=Integer.parseInt(sc.readLine());

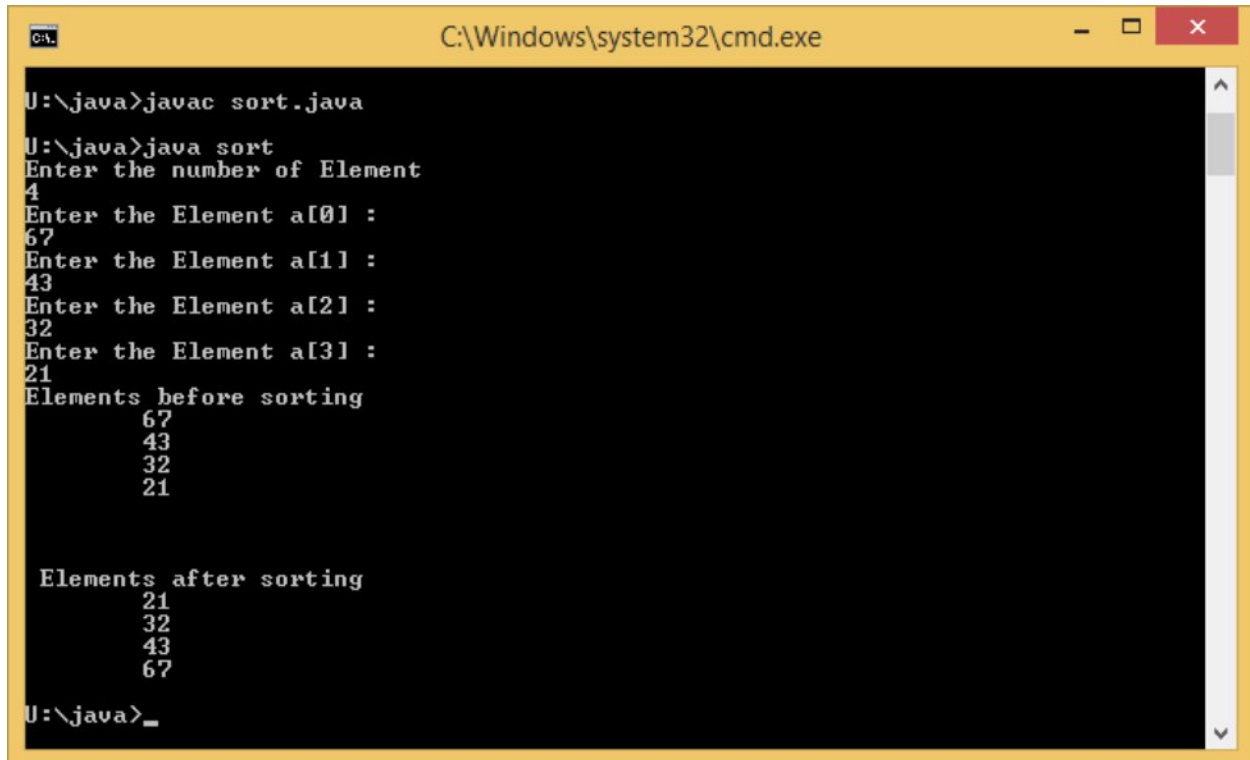
//DataType arrayName[];
//arrayName=new DataType[size];
int a[]=new int[10];
int i,j,t;

for(i=0;i<n;i++)
{
System.out.println("Enter the Element a["+i+"] :");
a[i]=Integer.parseInt(sc.readLine());
}

System.out.println("Elements befor sorting");
for(i=0;i<n;i++)
{
System.out.println("\t" + a[i]);
}

//Insertion sorting...
for(i=1;i<n;i++)
{
t=a[i];
for(j=i;j>0&& t<a[j-1];j--)
{
a[j]=a[j-1];
}
a[i]=t; }
System.out.println("\n\n Elements after sorting");
for(i=0;i<n;i++)
{
System.out.println("\t"+a[i]);
} } }
```

## OUTPUT:



```
C:\Windows\system32\cmd.exe

U:\java>javac sort.java
U:\java>java sort
Enter the number of Element
4
Enter the Element a[0] :
67
Enter the Element a[1] :
43
Enter the Element a[2] :
32
Enter the Element a[3] :
21
Elements before sorting
    67
    43
    32
    21

Elements after sorting
    21
    32
    43
    67
U:\java>_
```

## RESULT:



Ex. No: 8

## **SORTING NAMES USING OBJECT**

Date :

### **AIM:**

To prepare the sorting names using objects for java program.

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Include the header file.

Step 3: Open the string names roll no, department

Step 4: Save the program with java extensions.

Step 5: Run the program in command prompt.

Step 6: Stop the process.

## PROGRAM CODING:

```
import java.io.*;
class Student
{
    String name,rollno,dept;
    void getDetails() throws IOException
    {
        BufferedReader ob=new BufferedReader(new InputStreamReader(System.in));
        System.out.print("Enter Name: ");
        name=ob.readLine();
        System.out.print("Enter Roll Number: ");
        rollno=ob.readLine();
        System.out.print("Enter Department: ");
        dept=ob.readLine();
    }

    void displayDetails()
    {
        System.out.print("\n"+name+"\t"+rollno+"\t"+dept);
    }

    public static void main(String arg[]) throws IOException
    {
        BufferedReader ob=new BufferedReader(new InputStreamReader(System.in));
        System.out.print("Enter Number of Students ");
        int n=Integer.parseInt(ob.readLine());
        Student stu[]=new Student[n];
        int i,j;
        Student t=new Student();
        System.out.println("Enter Student details:");

        for(i=0;i<n;i++)
        {
            stu[i]=new Student();
            stu[i].getDetails();
        }
        System.out.println("Name \t Roll No \t Department:");
    }
}
```

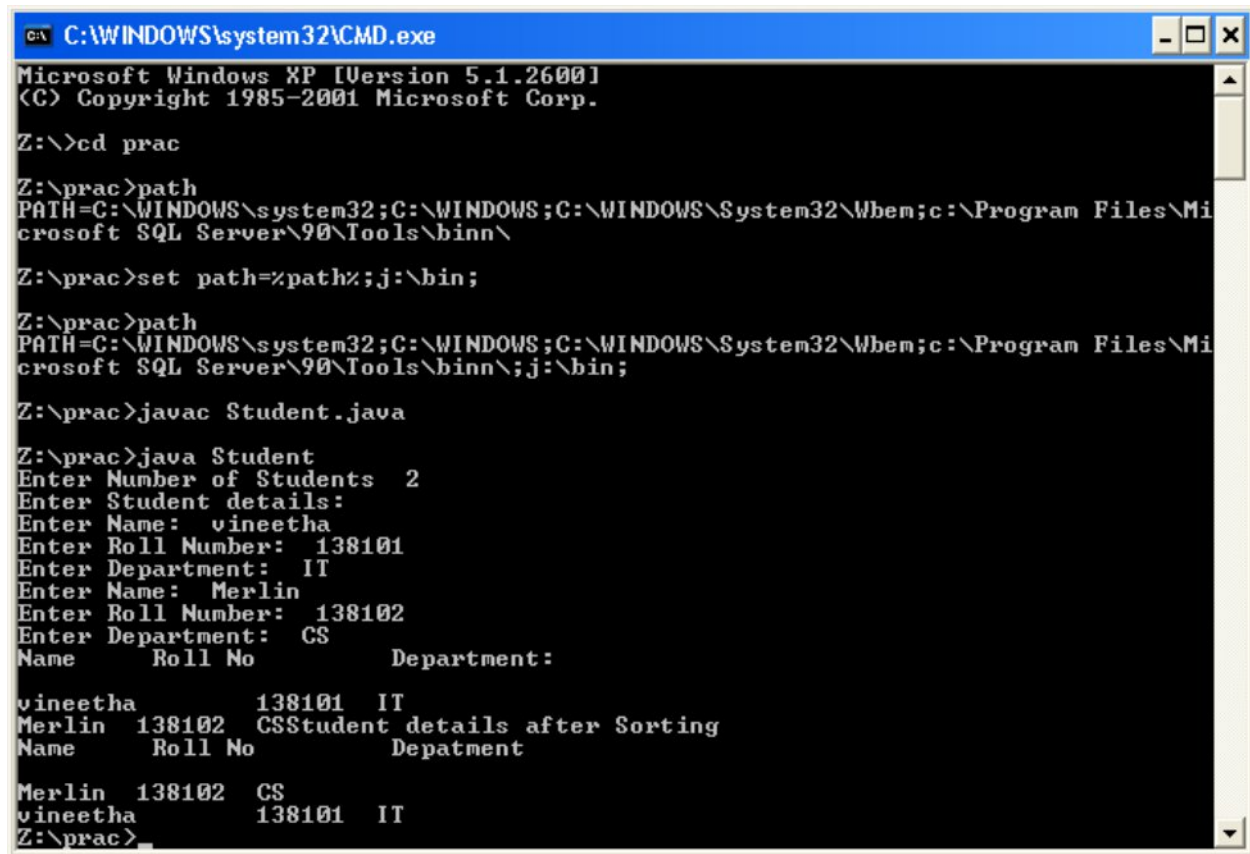
```
for(i=0;i<n;i++)  
{  
stu[i].displayDetails();  
}
```

**//Insertion Sorting...**

```
for(i=0;i<n;i++)  
{  
t=stu[i];  
  
for(j=i;j>0&& t.name.compareTo(stu[j-i].name)<0;j--)  
{  
stu[j]=stu[j-1];  
}  
stu[j]=t;  
}
```

```
System.out.println("Student details after Sorting");  
System.out.println("Name \t Roll No \t Depatment");  
for(i=0;i<n;i++)  
{  
stu[i].displayDetails();  
}  
}
```

## OUTPUT:



```
C:\WINDOWS\system32\CMD.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

Z:\>cd prac

Z:\prac>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\

Z:\prac>set path=%path%;j:\bin;

Z:\prac>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\;j:\bin;

Z:\prac>javac Student.java

Z:\prac>java Student
Enter Number of Students 2
Enter Student details:
Enter Name: vineetha
Enter Roll Number: 138101
Enter Department: IT
Enter Name: Merlin
Enter Roll Number: 138102
Enter Department: CS
Name      Roll No      Department:
vineetha   138101   IT
Merlin    138102   CS
Student details after Sorting
Name      Roll No      Department
Merlin    138102   CS
vineetha   138101   IT
Z:\prac>
```

## RESULT:

Ex. No: 9

## **PACKAGES**

Date :

### **AIM:**

To write a java program to create the package-calc using java coding.

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Include the header file for java program.

Step 3: Open the class and package.

Step 4: Set the mathematical operation for packages.

Step 5: Open the class and package for the tester.

Step 6: Create the objects for tester.

Step 7: Save the program with java execution.

Step 8: Stop the process.

## PROGRAM CODING:

### MYPACKAGE - CALC:

```
package mypackage;
public class calc
{
public int sum(int a, int b)
{
return (a+b);
}

public int sub(int a, int b)
{
return (a-b);
}

public int mul(int a, int b)
{
return (a*b);
}

public int div(int a, int b)
{
return (a/b);
}

public int mod(int a, int b)
{
return (a%b);
}

public int power(int a, int b)
{
int i,res=1;
for(i=0;i<b;i++)
res=res*a;
return res;
}

public int square(int a)
{
return (a*a);
}
public int cube(int a)
{
return (a*a*a); } }
```

## TESTER:

```
import mypackage.calc;
import java.io.*;

class tester
{
    public static void main(String arg[]) throws IOException
    {
        calc c=new calc();
        BufferedReader sc= new BufferedReader (new InputStreamReader(System.in));
        System.out.println("Enter the two integers");
        int a=Integer.parseInt(sc.readLine());
        int b=Integer.parseInt(sc.readLine());
        int res=0;

        System.out.println("1.
        addition\n2.subtraction\n3.multiplication\n4.division\n5.modulus\n6.power\n7.square\n8.cube");
        int ch=Integer.parseInt(sc.readLine());

        switch(ch)
        {
            case 1:
                res=c.sum(a,b);
                break;

            case 2:
                res=c.sub(a,b);
                break;

            case 3:
                res=c.mul(a,b);
                break;

            case 4:
                res=c.div(a,b);
                break;

            case 5:
                res=c.mod(a,b);
                break;

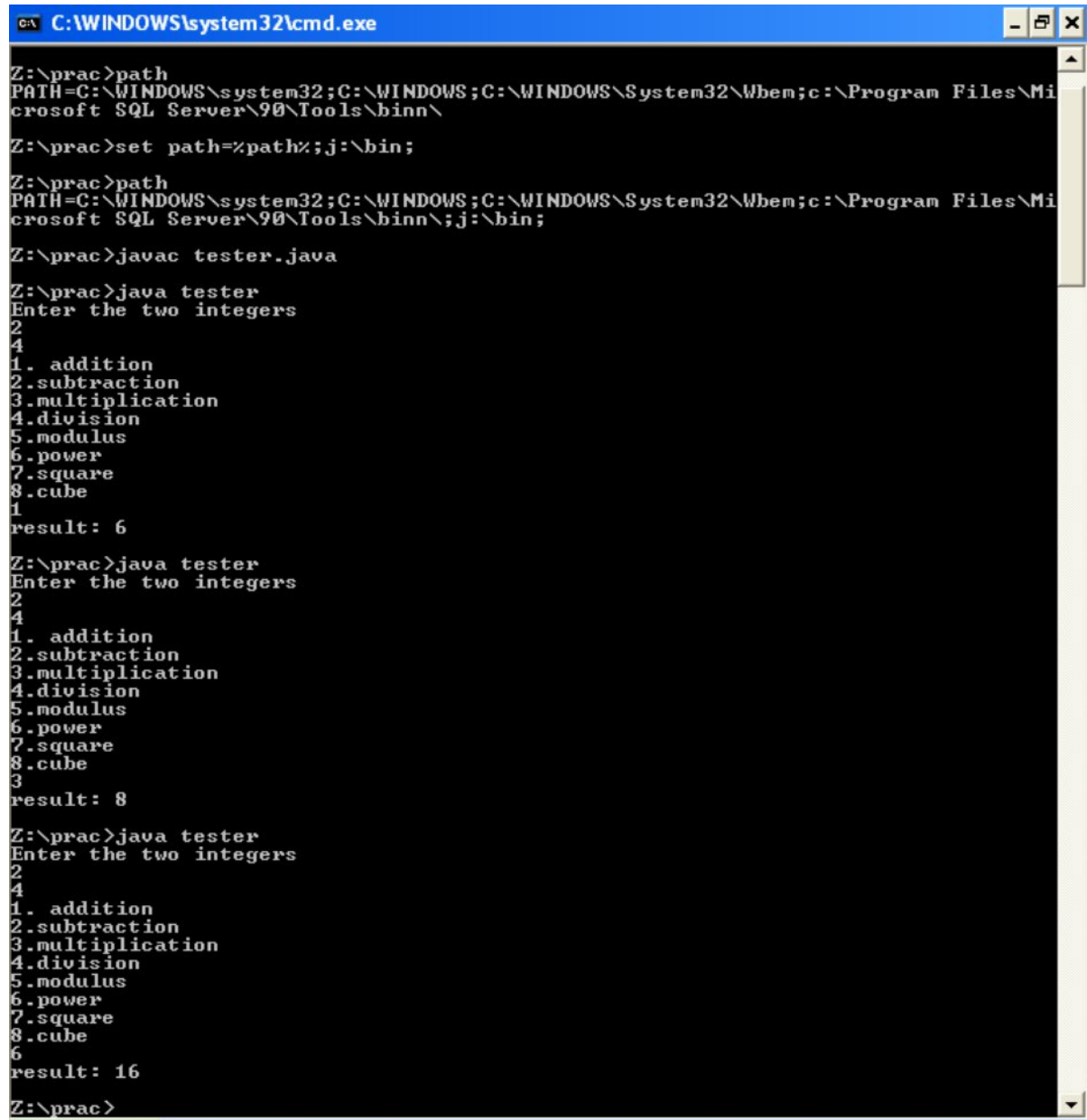
            case 6:
                res=c.power(a,b);
                break;
```

```
case 7:  
res=c.square(a);  
break;
```

```
case 8:  
res=c.cube(a);  
break;  
}  
System.out.println("result: "+res);  
}  
}
```



## OUTPUT:



```
C:\WINDOWS\system32\cmd.exe

Z:\prac>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\

Z:\prac>set path=%path%;j:\bin;

Z:\prac>path
PATH=C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;c:\Program Files\Microsoft SQL Server\90\Tools\bin\;j:\bin;

Z:\prac>javac tester.java

Z:\prac>java tester
Enter the two integers
2
4
1. addition
2.subtraction
3.multiplication
4.division
5.modulus
6.power
7.square
8.cube
1
result: 6

Z:\prac>java tester
Enter the two integers
2
4
1. addition
2.subtraction
3.multiplication
4.division
5.modulus
6.power
7.square
8.cube
3
result: 8

Z:\prac>java tester
Enter the two integers
2
4
1. addition
2.subtraction
3.multiplication
4.division
5.modulus
6.power
7.square
8.cube
6
result: 16

Z:\prac>
```

## RESULT

Ex. No: 10

## **CHAT APPLICATION**

Date :

### **AIM:**

To create a java program for client\server chat application.

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Include header file for client side and server side.

Step 3: Create an object and class for both client and server.

Step 4: Save the program in client.java and server.java.

Step 5: Open the command prompt run the client and server.

Step 6: Stop the process.

## PROGRAM CODING:

### SERVER:

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

class MyServer
{
    public static void main(String args[])
    {
        try
        {
            ServerSocket ss=new ServerSocket(4444);
            System.out.println("Server Ready....!!!");
            Socket s=ss.accept();
            DataOutputStream dout=new DataOutputStream(s.getOutputStream());
            DataInputStream din=new DataInputStream(s.getInputStream());
            String str="Welcome";
            Scanner in=new Scanner(System.in);

            while(!str.equals("bye"))
            {
                str=(String)din.readUTF();
                System.out.println("Client: "+str);
                System.out.println("Server: ");
                str=in.nextLine();
                dout.writeUTF(str);
                dout.flush();
            }
            ss.close();
        }

        catch(Exception e)
        {
            System.out.println(e);
        }
    }
}
```

## CLIENT:

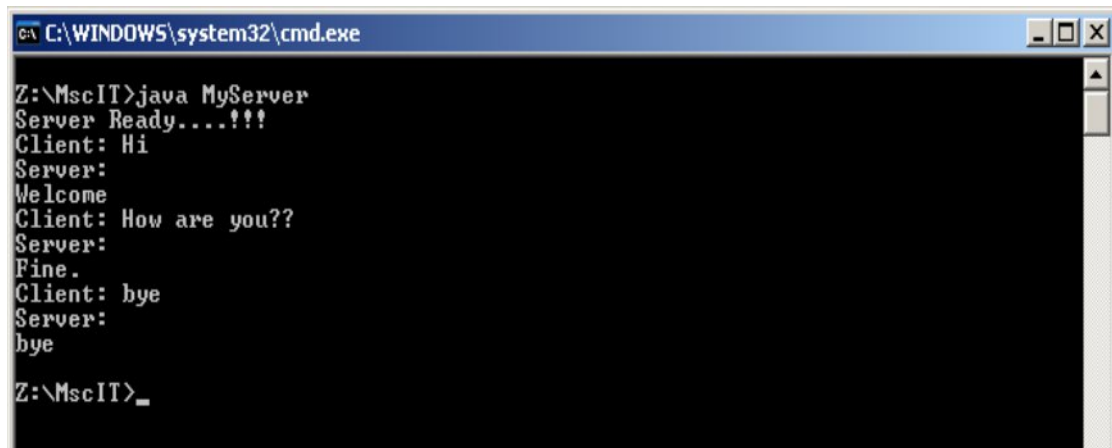
```
import java.net.*;
import java .io.*;
import java.util.*;

class MyClient
{
    public static void main(String args[])
    {
        try
        {
            Socket s=new Socket("localhost",4444);
            DataOutputStream dout=new DataOutputStream(s.getOutputStream());
            DataInputStream din=new DataInputStream(s.getInputStream());
            String str="Welcome";
            Scanner in=new Scanner(System.in);

            while(!str.equals("bye"))
            {
                System.out.println("Client: ");
                str=in.nextLine();
                dout.writeUTF(str);
                dout.flush();
                str=(String)din.readUTF();
                System.out.println("Server: "+str);
            }
            s.close();
        }

        catch(Exception e)
        {
            System.out.println(e);
        }
    }
}
```

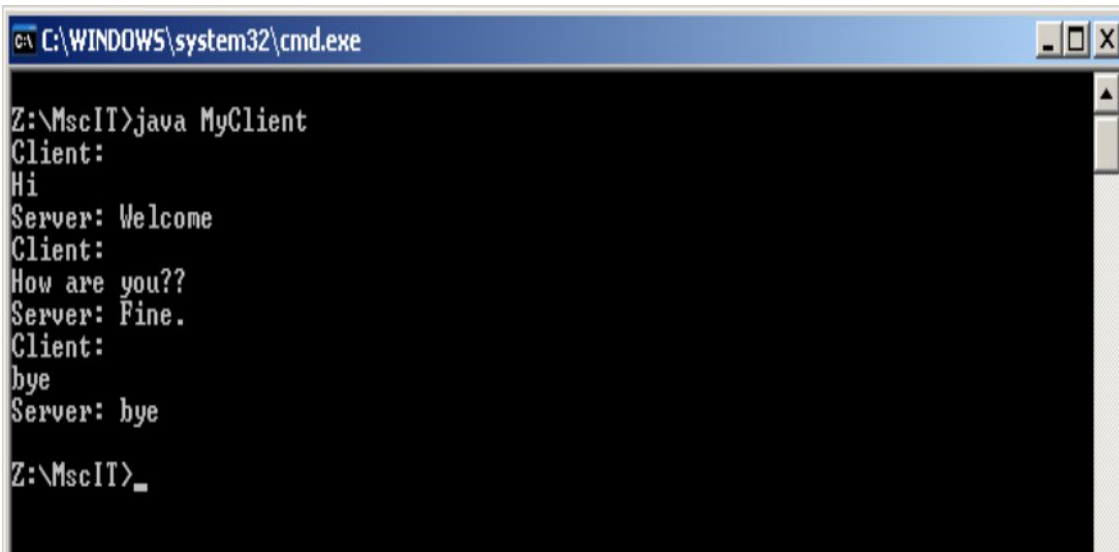
## OUTPUT:



```
C:\WINDOWS\system32\cmd.exe

Z:\MscIT>java MyServer
Server Ready....!!!
Client: Hi
Server:
Welcome
Client: How are you??
Server:
Fine.
Client: bye
Server:
bye

Z:\MscIT>_
```



```
C:\WINDOWS\system32\cmd.exe

Z:\MscIT>java MyClient
Client:
Hi
Server: Welcome
Client:
How are you??
Server: Fine.
Client:
bye
Server: bye

Z:\MscIT>_
```

## RESULT:

Ex. No: 11

## **STUDENT DATABASE**

Date :

### **AIM:**

To create a java program for student database and using the jdbc and odbc connections in Ms-Access.

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Create a student database using the ms-access.to add fields.

Step 3: To create a student name, mark, sub name, and save the database.

Step 4: To write a program for java code and using connections in jdbc and odbc.

Step 5: Open the class and include the objects.

Step 6: Save the program with java execution.

Step 7: Stop the process.

## PROGRAM CODING:

```
import java.io.*;
class Studentdb
{
    void insert()
    {
        try
        {
            BufferedReader br=new BufferedReader(new InputStreamReader(System.in));
            String name=br.readLine();
            String m1=br.readLine();
            String m2=br.readLine();
            String m3=br.readLine();
            String q="insert into student(stu_name,mark1,mark2,mark3)values(' "+name+"
            ', "+m1+", "+m2+", "+m3+" )";

            Class.forName("sun.jdbc.odbc.JdbcOdbcDriver");
            Connection con=DriverManager.getConnection("Jdbc:Odbc:stu");
            Statement st=con.createStatement();
            st.executeUpdate(q);
            con.close();
        }

        catch(Exception e)
        {
            System.out.println(e);
        }
    }

    void display()
    {
        try
        {
            Class.forName("sun.jdbc.odbc.JdbcOdbcDriver");
            Connection con=DriverManager.getConnection("Jdbc:Odbc:stu");
            Statement st=con.createStatement();
            ResultSet rs=st.executeQuery("select * from student");
```

```
while(rs.next())
{
System.out.println("Name:"+rs.getString("stu_name"));
System.out.println("Mark1:"+rs.getString("mark1"));
System.out.println("Mark2:"+rs.getString("mark2"));
System.out.println("Mark3:"+rs.getString("mark3"));
}
con.close();
}
```

```
catch(Exception e)
{
System.out.println(e);
}
}
```

```
public static void main(String args[])
{
Studentdb s=new Studentdb();
s.insert();
s.display();
}
}
```



**OUTPUT:**

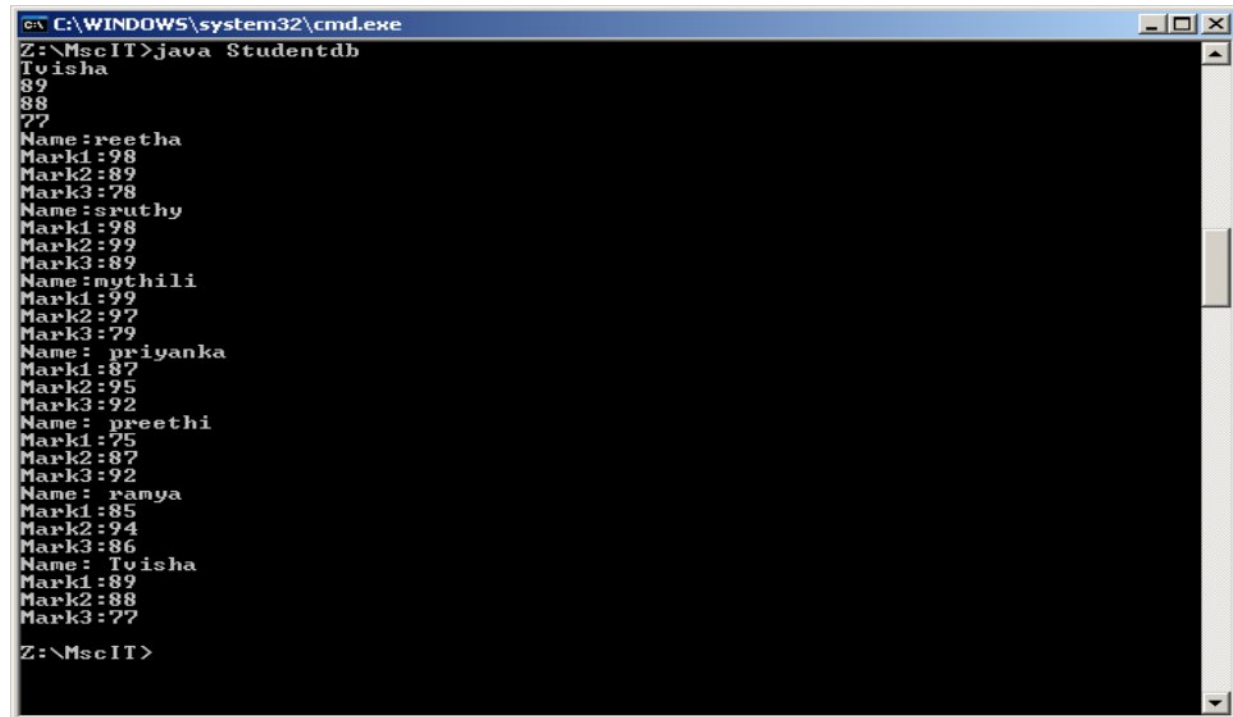
**BEFORE ADDING FIELD:**

The screenshot shows the Microsoft Access application window titled 'StudentDB : Database (Access 2007) - Microsoft Access'. The 'Table Tools' ribbon is active, showing tabs for 'Home', 'Create', 'External Data', 'Database Tools', and 'Datasheet'. The 'Datasheet' tab is selected, displaying a grid of data for the 'student' table. The table has columns: ID, stu\_name, mark1, mark2, mark3, and Add New Field. The data is as follows:

ID	stu_name	mark1	mark2	mark3	Add New Field
1	reetha	98	89	78	
2	sruthy	98	99	89	
3	mythili	99	97	79	
4	priyanka	87	95	92	
5	preethi	75	87	92	
6	ramya	85	94	86	
*	(New)				

The status bar at the bottom indicates 'Record: 7 of 7', 'No Filter', and 'Search'. The 'Num Lock' indicator is also visible.

## AFTER ADDING FIELDS:



```
C:\WINDOWS\system32\cmd.exe
Z:\MscIT>java Studentdb
Tvisha
89
88
77
Name:reetha
Mark1:98
Mark2:89
Mark3:78
Name:sruthy
Mark1:98
Mark2:99
Mark3:89
Name:mythili
Mark1:99
Mark2:97
Mark3:79
Name: priyanka
Mark1:87
Mark2:95
Mark3:92
Name: preethi
Mark1:75
Mark2:87
Mark3:92
Name: ranya
Mark1:85
Mark2:94
Mark3:86
Name: Tvisha
Mark1:89
Mark2:88
Mark3:77
Z:\MscIT>
```

Table Tools StudentDB : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Datasheet

View Paste Font Rich Text Records Sort & Filter Find

Security Warning Certain content in the database has been disabled Options...

All Tables student

ID	stu_name	mark1	mark2	mark3	Add New Field
1	reetha	98	89	78	
2	sruthy	98	99	89	
3	mythili	99	97	79	
4	priyanka	87	95	92	
5	preethi	75	87	92	
6	ramya	85	94	86	
8	Tvisha	89	88	77	
*	(New)				

Record: 1 of 7 No Filter Search

Datasheet View Num Lock

**RESULT:**

Ex. No: 12

## **QUIZ APPLICATION**

Date :

### **AIM:**

To write a java program to create a quiz program.

### **ALGORITHM:**

Step 1: Start the process.

Step 2: Include the header file for java program.

Step 3: Set Size, title, visible and frame.

Step 4: Add the buttons in the program.

Step 5: Create the frame for score.

Step 6: Save and execute the program.

Step 7: Stop the process.

## PROGRAM CODING:

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;

class quiz extends JFrame
{
    quiz()
    {
        setSize(600,600);
        setTitle("Quiz application using swing");
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setVisible(true);
        Container cp=getContentPane();
        Quizpanel qp=new Quizpanel();
        cp.add(qp);
        setVisible(true);
    }

    public static void main(String arg[])
    {
        quiz q=new quiz();
    }
}

class Quizpanel extends JPanel implements ActionListener
{
    JLabel q1,q2,q3,q4,q5;
    JTextArea a1,a2,a3,a4,a5;
    JButton submit;
    int mark;

    Quizpanel()
    {
        mark=0;
        q1=new JLabel("question 1: World's poisonous animal?");
        q2=new JLabel("question 2: who win the cricket world cup 2015?");
        q3=new JLabel("question 3: world's second tastiest water?");
        q4=new JLabel("question 4: Who invented the keyboard?");
        q5=new JLabel("question 5: which is the first animal to reach the space?");
        a1=new JTextArea();
        a2=new JTextArea();
        a3=new JTextArea();
        a4=new JTextArea();
        a5=new JTextArea();
    }
}
```

```
submit=new JButton("submit");
setLayout(new GridLayout(6,2,50,50));
add(q1);
add(a1);
add(q2);
add(a2);
add(q3);
add(a3);
add(q4);
add(a4);
add(q5);
add(a5);
submit.addActionListener(this);
add(submit);
}
```

```
public void actionPerformed(ActionEvent e)
{
    mark=0;
    if(a1.getText().equals("aero frog"))
        mark=mark+10;
    if(a2.getText().equals("australia"))
        mark=mark+10;
    if(a3.getText().equals("siruvani"))
        mark=mark+10;
    if(a4.getText().equals("qwerty"))
        mark=mark+10;
    if(a5.getText().equals("laika"))
        mark=mark+10;
    System.out.println("mark: "+mark);
    new score(mark);
    setVisible(false);
}
}
```

## SCORE:

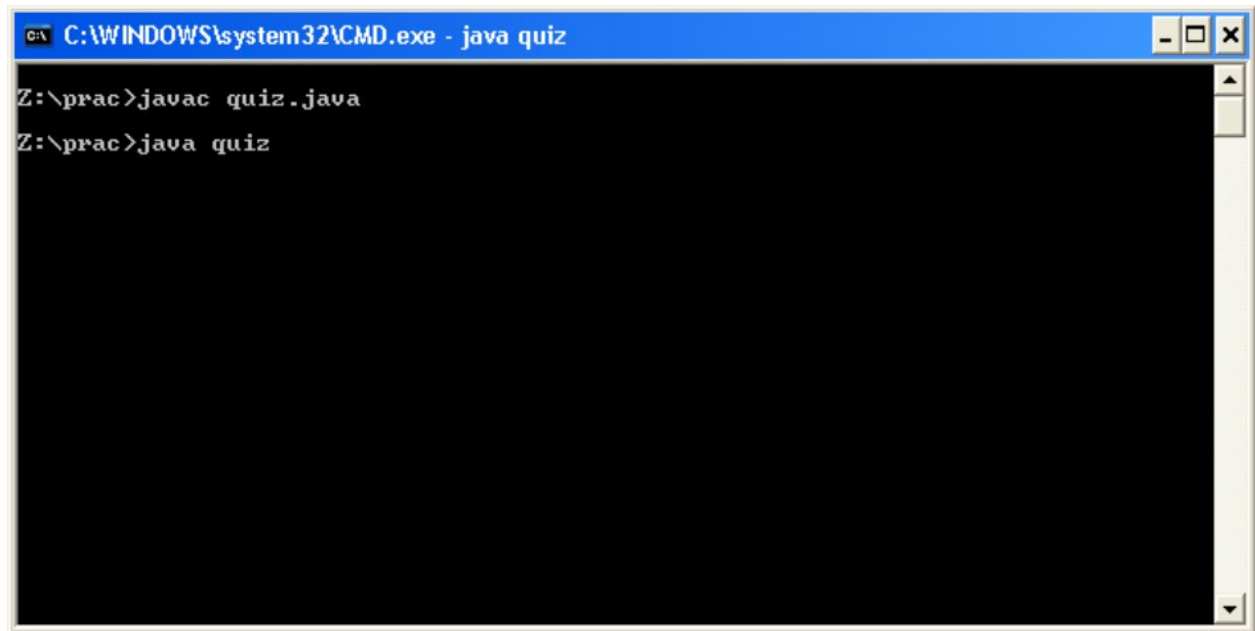
```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;

class score extends JFrame
{
    score(int mark)
    {
        setSize(600,600);
        setTitle("Quiz result");
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        Container cp=getContentPane();
        ScorePanel sp=new ScorePanel(mark);
        cp.add(sp);
        setVisible(true);
    }
}

class ScorePanel extends JPanel
{
    ScorePanel(int mark)
    {
        JLabel score=new JLabel("your score is: "+mark);
        add(score);
    }
}
```

## OUTPUT:




```
C:\WINDOWS\system32\CMD.exe - java quiz

Z:\prac>javac quiz.java
Z:\prac>java quiz
```

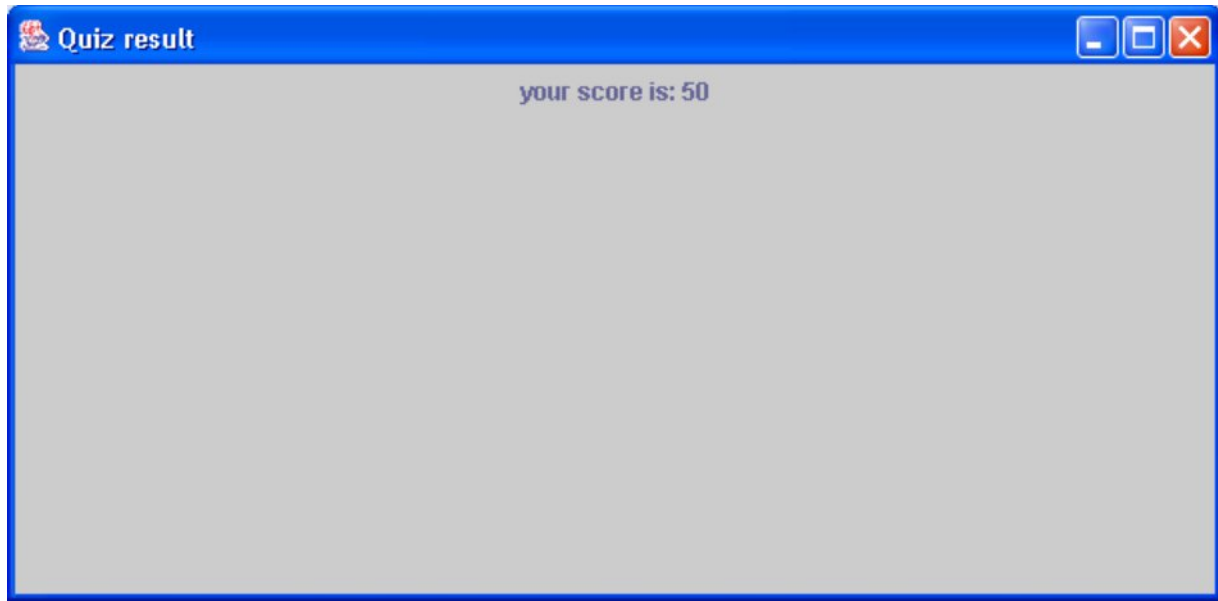
The image shows a Windows Command Prompt window with a blue title bar that reads "C:\WINDOWS\system32\CMD.exe - java quiz". The window has standard minimize, maximize, and close buttons. The main area is black with white text. The first command entered is "Z:\prac>javac quiz.java", and the second is "Z:\prac>java quiz". There is a vertical scrollbar on the right side of the window.



 Quiz application using swing

question 1: World's poisonous animal?	aero frog
question 2: who win the cricket world cup 201...	australia
question 3: world's second tastiest water?	siruvani
question 4: Who invented the keyboard?	qwerty
question 5: which is the first animal to reach t...	laika

**submit**



**RESULT**