UTTARANCHAL UNIVERSITY

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Arcadia Grant, P.O. Chandanwari, Premnagar, Dehradun, Uttarakhand

Academic Session :- 2022-23 (Odd Semester)

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University Roll No:-   2001110003

Subject Name:-

Programming With Advanced

Java Lab

Subject Code:-   PCS – 501

Year:-   2022-23

Semester:-   5 th

Teacher's Name:-   Mr. Sachin Kumar

Practical-01

AIM:- Write a java code for creating List using swing.

Source Code:-

```java
import javax.swing.*;

class list extends JFrame {

    // main class
    public static void main(String[] args) {
        // create a new frame
        JFrame f = new JFrame("frame");

        // create a panel
        JPanel p = new JPanel();

        JLabel l = new JLabel("select the day of the week");

        String week[] = { "Monday", "Tuesday", "Wednesday",
                "Thursday", "Friday", "Saturday", "Sunday" };

        JList b = new JList(week);

        b.setSelectedIndex(2);

        p.add(b);

        f.add(p);

        f.setSize(400, 400);

        f.show();
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }

}
```
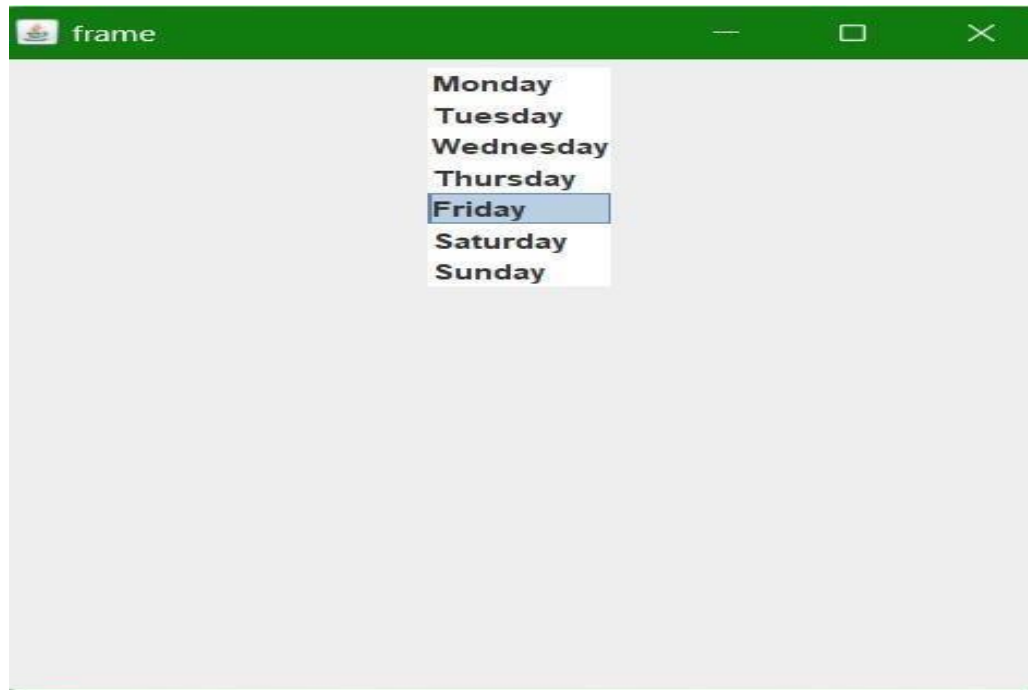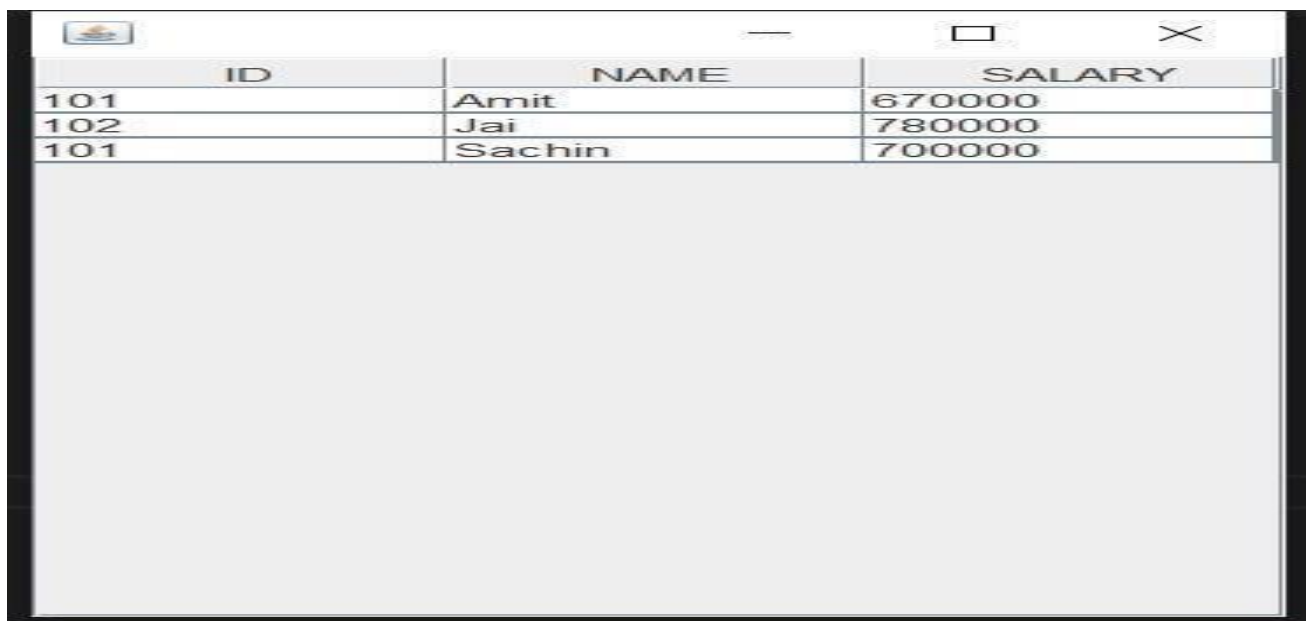
Practical-02

AIM:- Write program for creating Tables using swing.

Source Code:-

```
import javax.swing.*;    public class
table {      public static void
main(String[] args) {

    JFrame f = new JFrame();
    String data[][] = { { "101", "Amit", "670000" },
        { "102", "Jai", "780000" },
        { "101", "Sachin", "700000" } };
    String column[] = { "ID", "NAME", "SALARY" };
JTable    jt    =    new    JTable(data,    column);
jt.setBounds(30, 40, 200, 300);      JScrollPane sp = new
JScrollPane(jt);        f.add(sp);          f.setSize(300,
400);
    f.setVisible(true);
    f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
  } }
```

OUTPUT

ID	NAME	SALARY
101	Amit	670000
102	Jai	780000
101	Sachin	700000

Practical-03

AIM:- Write a java code to demonstrate Graphic in Swing.

Source Code:-

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

public class graphic extends Canvas {
   public void paint(Graphics g) {

      setBackground(Color.BLUE);
      g.drawString("Hello", 40, 40);
      g.drawOval(100, 100, 250, 300);        setForeground(Color.YELLOW);
g.fillOval(100,  100, 250, 300);
      g.setColor(Color.BLACK);
      g.drawOval(160, 185, 40, 25);
      g.fillOval(160, 185, 40, 25);
      g.drawOval(250, 185, 40, 25);
      g.fillOval(250, 185, 40, 25);
      g.drawArc(175, 300, 100, 50, 0, -180);

   }

   public static void main(String[] args) {
graphic m = new graphic();        JFrame f
= new JFrame();        f.add(m);
f.setSize(800, 800);
      f.setVisible(true);
      f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
   }
}
```
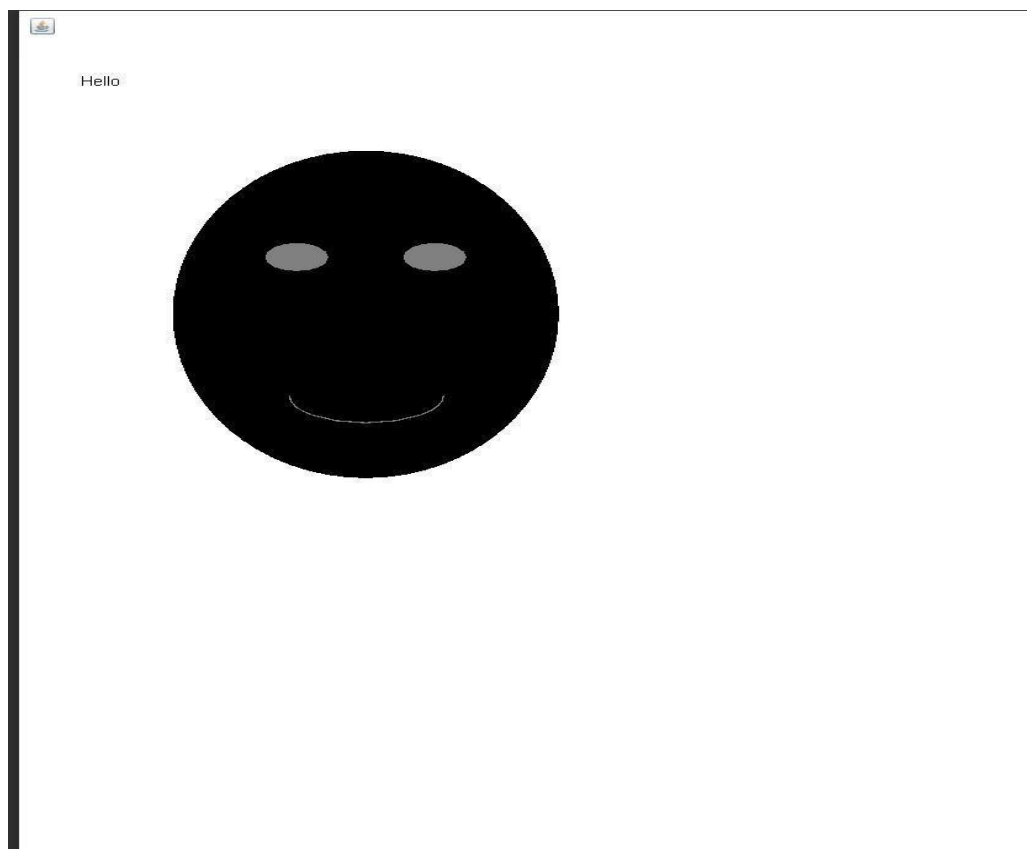
Practical-04

AIM:- Write a java code for creating validation form for login.

Source Code:-

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

public class LoginDemo extends JFrame implements ActionListener {
JPanel panel;
 JLabel user_label, password_label, message;
 JTextField userName_text;
 JPasswordField password_text;
 JButton submit, cancel;

 LoginDemo() {  user_label = new JLabel();
user_label.setText("User    Name       :");
userName_text  =     new  JTextField();
password_label  =     new  JLabel();
password_label.setText("Password      :");
password_text = new JPasswordField();  submit =
new JButton("SUBMIT");  panel =
new    JPanel(new    GridLayout(3,    1));
panel.add(user_label);
panel.add(userName_text);
panel.add(password_label);
panel.add(password_text);    message
= new JLabel();  panel.add(message);
panel.add(submit);
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
 submit.addActionListener(this);  add(panel,
BorderLayout.CENTER); setTitle("Please
Login Here !"); setSize(450,350);
```

```java
setVisible(true); }   public static void
main(String[] args) {    new
LoginDemo();
 }

 public void actionPerformed(ActionEvent ae)
{
 String userName = userName_text.getText();

 String password = password_text.getText();

 if (userName.trim().equals("admin") &&

 password.trim().equals("admin"))
{
 message.setText(" Hello " + userName + "");
 } else {
 message.setText(" Invalid user.. ");
 }
} }
```

OUTPUT
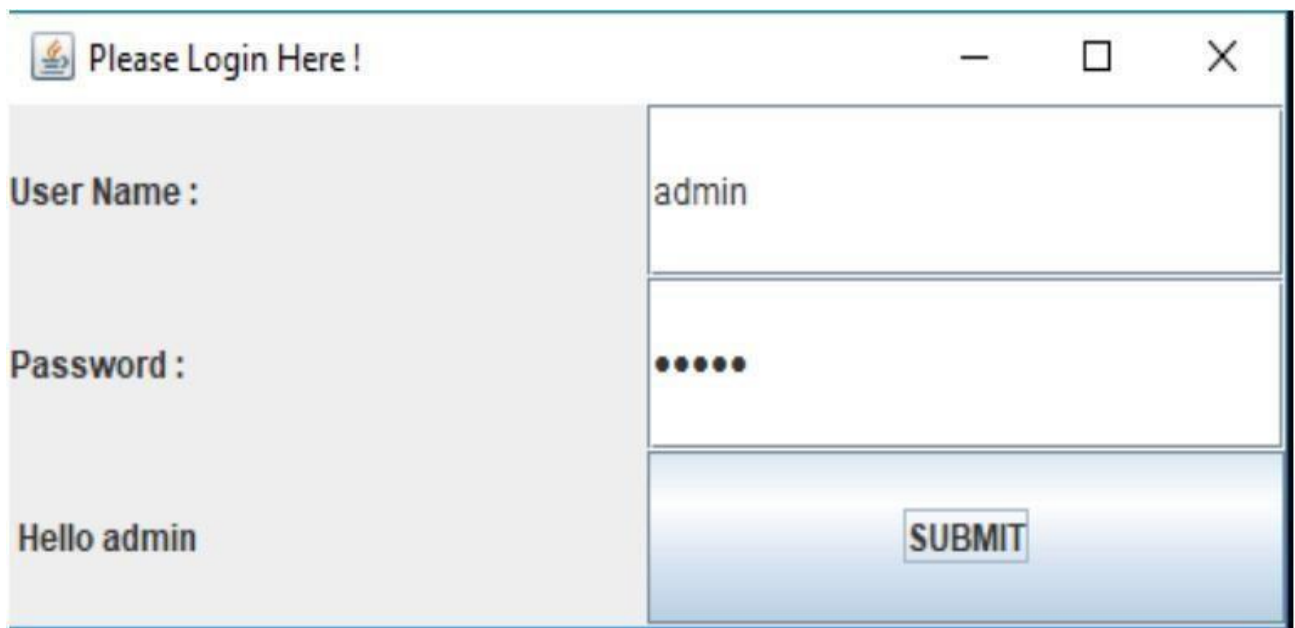
Practical-05

AIM:- **Write a program in Java to implement a Client/Server application using RMI.**

Source Code:-

// 1. Define the Remote Interface import java.rmi.*;   public
interface AddServerIntf extends Remote
{ int add(int a,int b) throws
RemoteException; int sub(int a,int b) throws
RemoteException; int mul(int a,int b) throws
RemoteException; int div(int a,int b) throws
RemoteException; int mod(int a,int b) throws RemoteException;
}

// 2. Implement Remote Interface
import java.rmi.*; import java.rmi.server.*;
public class AddServerImpl extends UnicastRemoteObject implements AddServerIntf
{
public AddServerImpl() throws RemoteException
{}
public int add(int a,int b)throws RemoteException
{
return (a+b);
}
public int sub(int a,int b)throws RemoteException
{
return (a-b);
}
public int mul(int a,int b)throws RemoteException
{ return (a*b); } public int div(int a,int b)throws RemoteException
{ return (a/b); } public int mod(int a,int b)throws RemoteException
{ return
(a%b);
}
}
//**3. Implementation of Server Machine**

```java
import        java.rmi.*;
import java.net.*; public class
AddServer
{
public static void main(String args[])
{ try {
}
AddServerImpl obj = new AddServerImpl();
Naming.rebind("addserver",      obj);
System.out.println("server started"); catch
(Exception e)
{
System.out.println("Exception: " + e);
}
}
}
```

// 4. Implementation of Client Machine
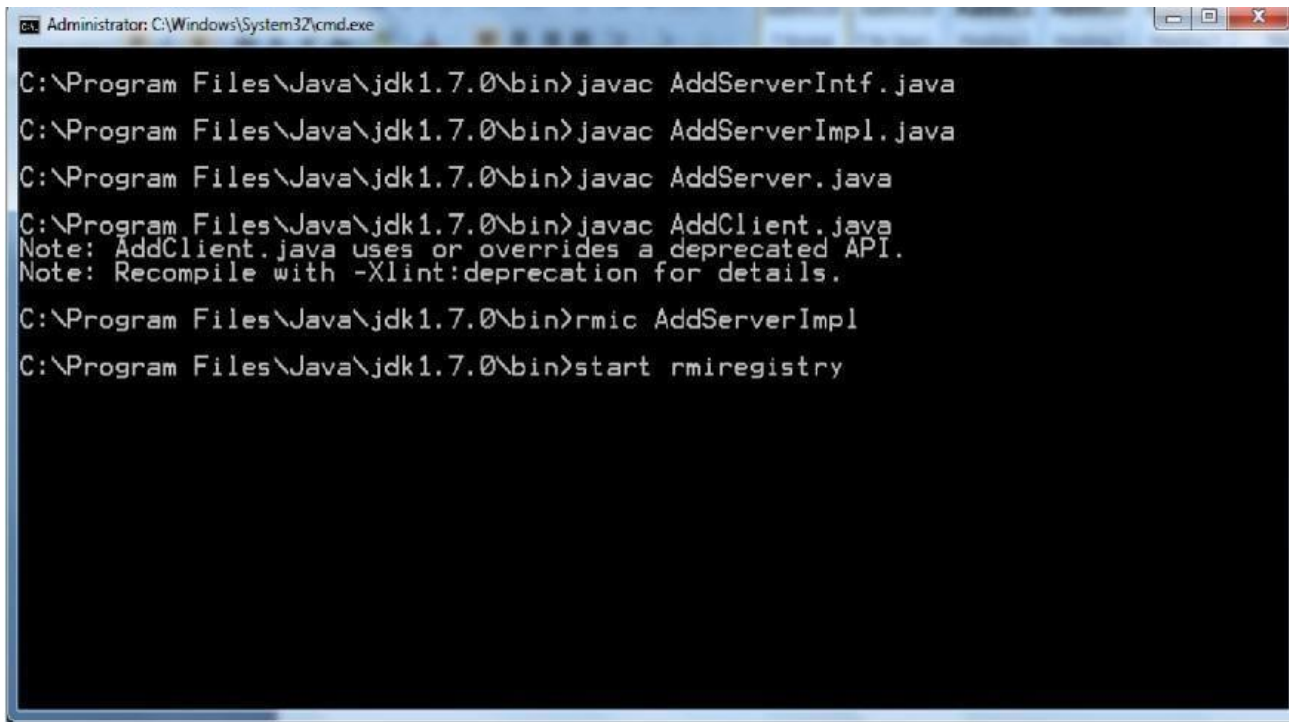
```java
import        java.rmi.*; import java.io.*;
public class AddClient
{
public static void main(String args[])
{ try
{
DataInputStream ds=new DataInputStream(System.in);
String s="rmi://MY-PC/addserver";
AddServerIntf obj = (AddServerIntf)Naming.lookup(s); System.out.println("ENTER
THE VALUES FOR a & b:"); int
a=Integer.parseInt(ds.readLine()); int b=Integer.parseInt(ds.readLine());
System.out.println("ADDITION="+obj.add(a,b));
System.out.println("SUBTRACTION="+obj.sub(a,b));
System.out.println("MULTIPLICATION="+obj.mul(a,b));
System.out.println("DIVISION="+obj.div(a,b));
System.out.println("MODULODIVISION="+obj.mod(a,b));  }   catch
(Exception e)
{
System.out.println("Exception: " + e);  }
}}
```
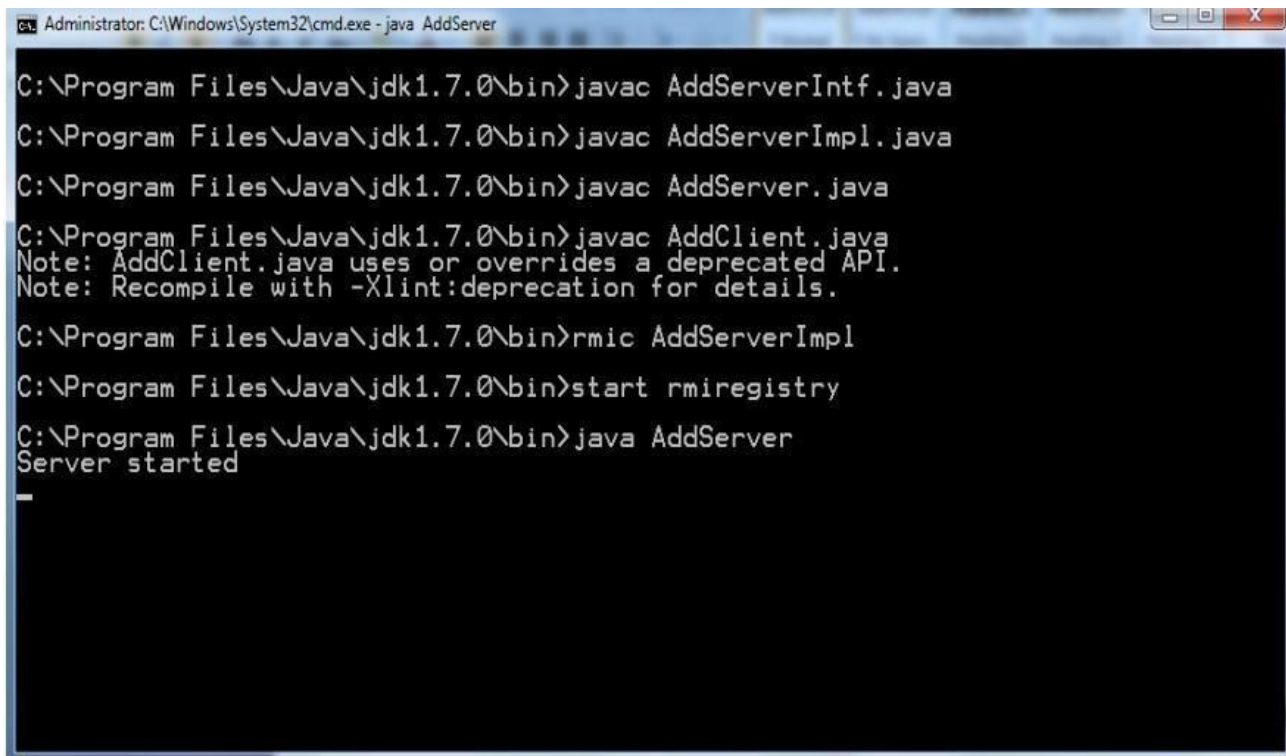
OUTPUT

LOCAL HOST SERVER SIDE COMMAND WINDOW:-

LOCAL HOST CLIENT SIDE COMMAND WINDOW:

Practical-06

AIM:- Write a java program to create a cookie and set the expiry time.

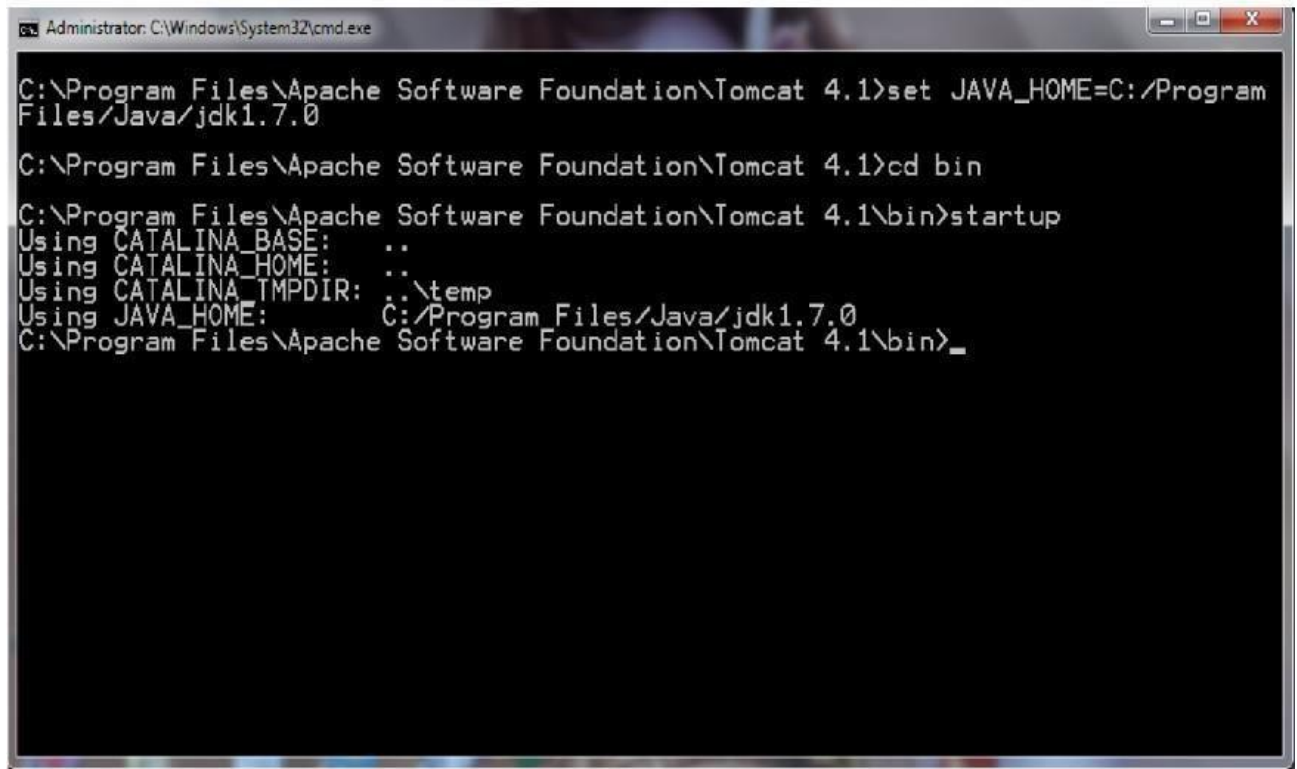**Source Code:-**

// Create a Cookie and Set the Expiry Time

Hello.html
```html
<html>
<head><title>cookies</title></head>
<body>
<form action="http://local host:8080/examples/servlet/cook" method="get">
FIRST NAME:<input type="text" name="fn"/></br>
LAST NAME:<input type="text" name="ln"/>
</br><input type="submit" value="SUBMIT"/>
</form></body></html>
```

Cook.java import java.io.*;
```java
import javax.servlet.*; import
javax.servlet.http.*;
public class cook extends HttpServlet
{
public void doGet(HttpServletRequest req,HttpServletResponse res)throws
ServletException,IOException
{
Cookie c1=new Cookie("cookie1",req.getParameter("fn")); Cookie c2=new
Cookie("cookie2",req.getParameter("ln"));   c1.setMaxAge(60*60*24);
c2.setMaxAge(60*60*24); res.addCookie(c1);  res.addCookie(c2);
res.setContentType("text/html"); PrintWriter out=res.getWriter();
out.println("<center><font color='red'>SAMPLE COOKIES</font></center>");
out.println("<font color='green'>FIRST
NAME:"+req.getParameter("fn")+"</font>"); out.println("<font color='green'>LAST
NAME:"+req.getParameter("ln")+"</font>");
}
}
```

OUTPUT

TOMCAT COMMAND WINDOW:

JAVA COMMAND WINDOW:

C:\Program Files\Java\jdk1.7.0\bin>javac cook.java -classpath "C:\Program Files \Apache Software Foundation\Tomcat 4.1\common\lib\servlet.jar"
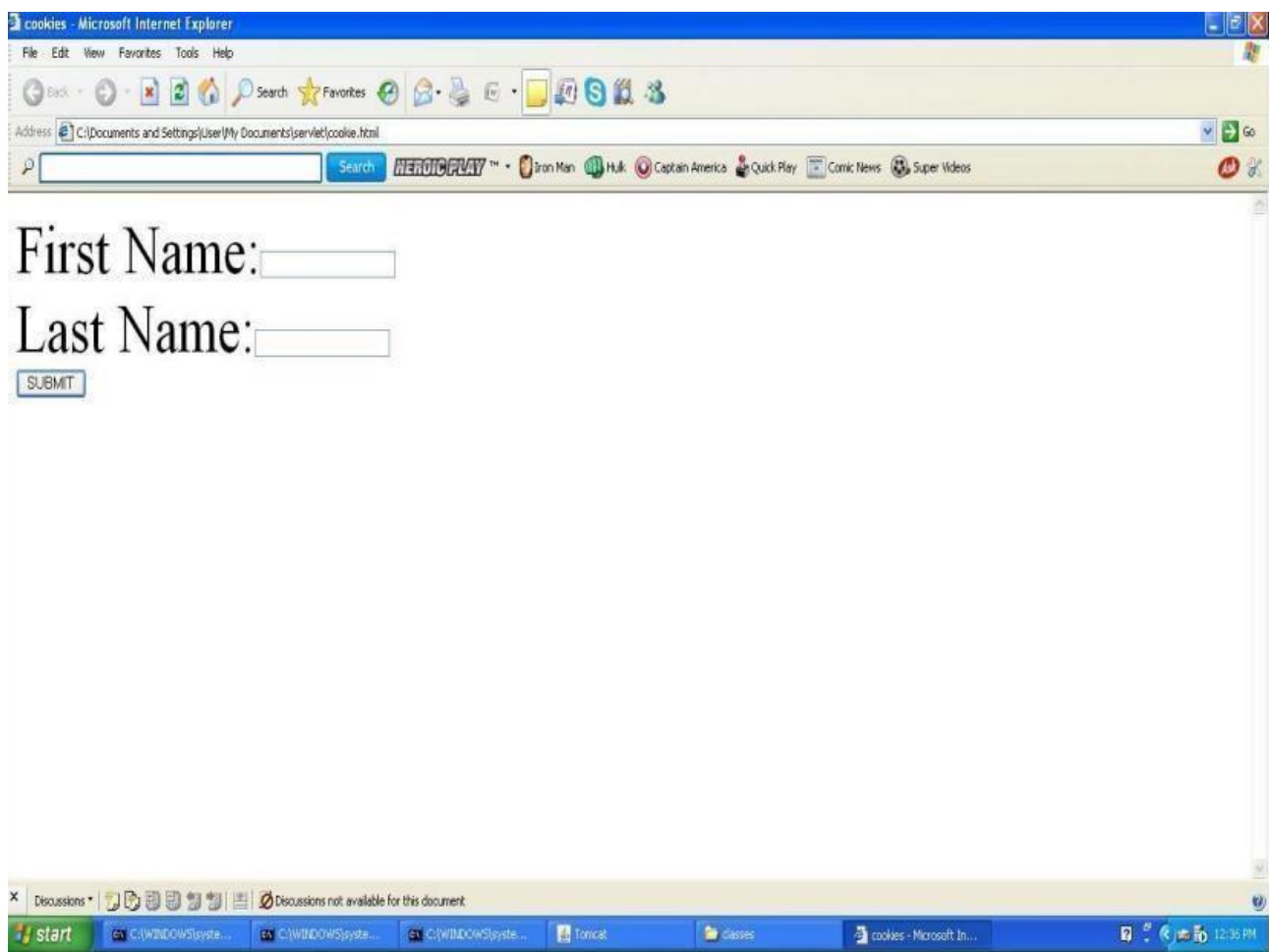
COPY THE FILE:

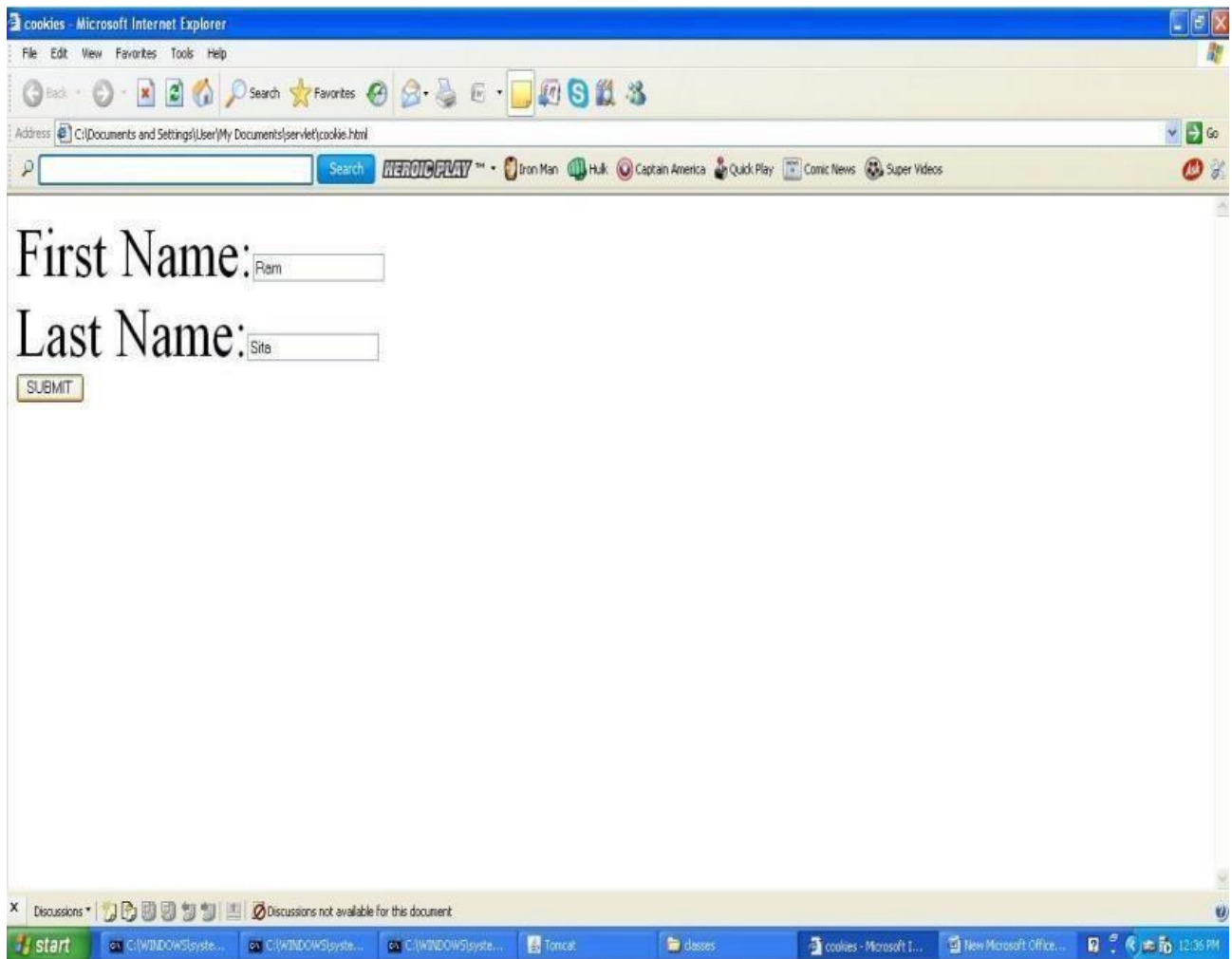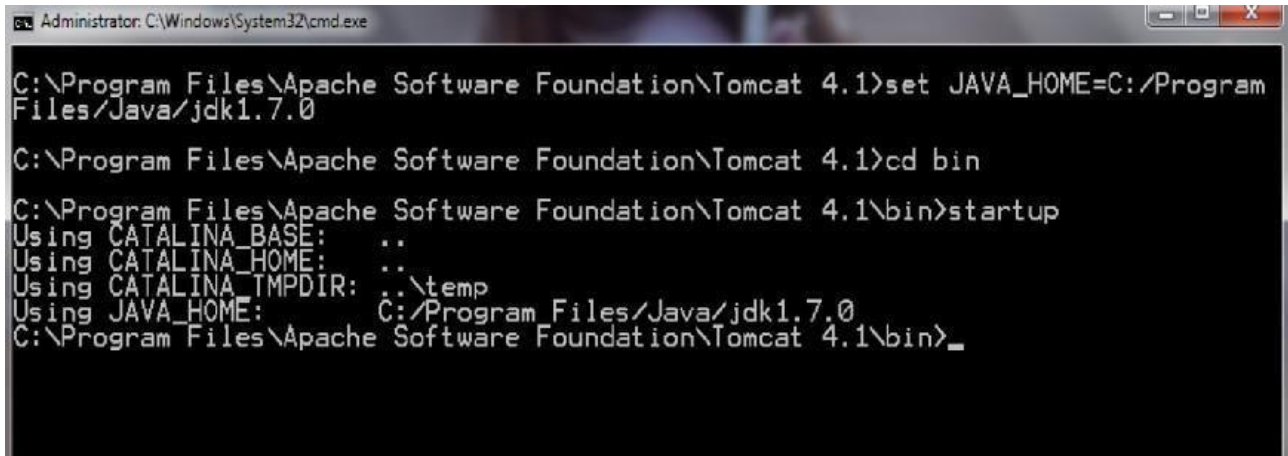Local Disc(C:)→Program Files→Java→jdk1.7.0→bin→cook.class.

PASTE THE FILE:

Local Disc(C:) → Program Files → Apache Software Foundation →Tomcat 4.1 →

Webapps →

Examples → WEB_INF → classes → paste cook.class

BROWSER WINDOW:

First Name: Ram

Last Name: Sita

SUBMIT

SAMPLECOOKIES

FIRST NAME: Ram
LAST NAME: Sita

Practical-07

AIM:- Write a program in Java to create Servlet to count the number of visitors to a web page.

Source Code:-

//Count Number of Access Times of the Servlet Page

```
import java.io.*; import  javax.servlet.*;
import javax.servlet.http.*;   public class
count extends HttpServlet
{ int c=0;   public void doGet(HttpServletRequest
req,HttpServletResponse res)throws ServletException,IOException
{ res.setContentType("text/plain"); PrintWriter out=res.getWriter();
c++;   out.println("since loading,this servlet hasbeen
accessed"+c+"times");
}
}
```

OUTPUT

TOMCAT COMMAND WINDOW:

JAVA COMMAND WINDOW:
C:\Program Files\Java\jdk1.7.0\bin>javac count.java -classpath "C:\Program Files
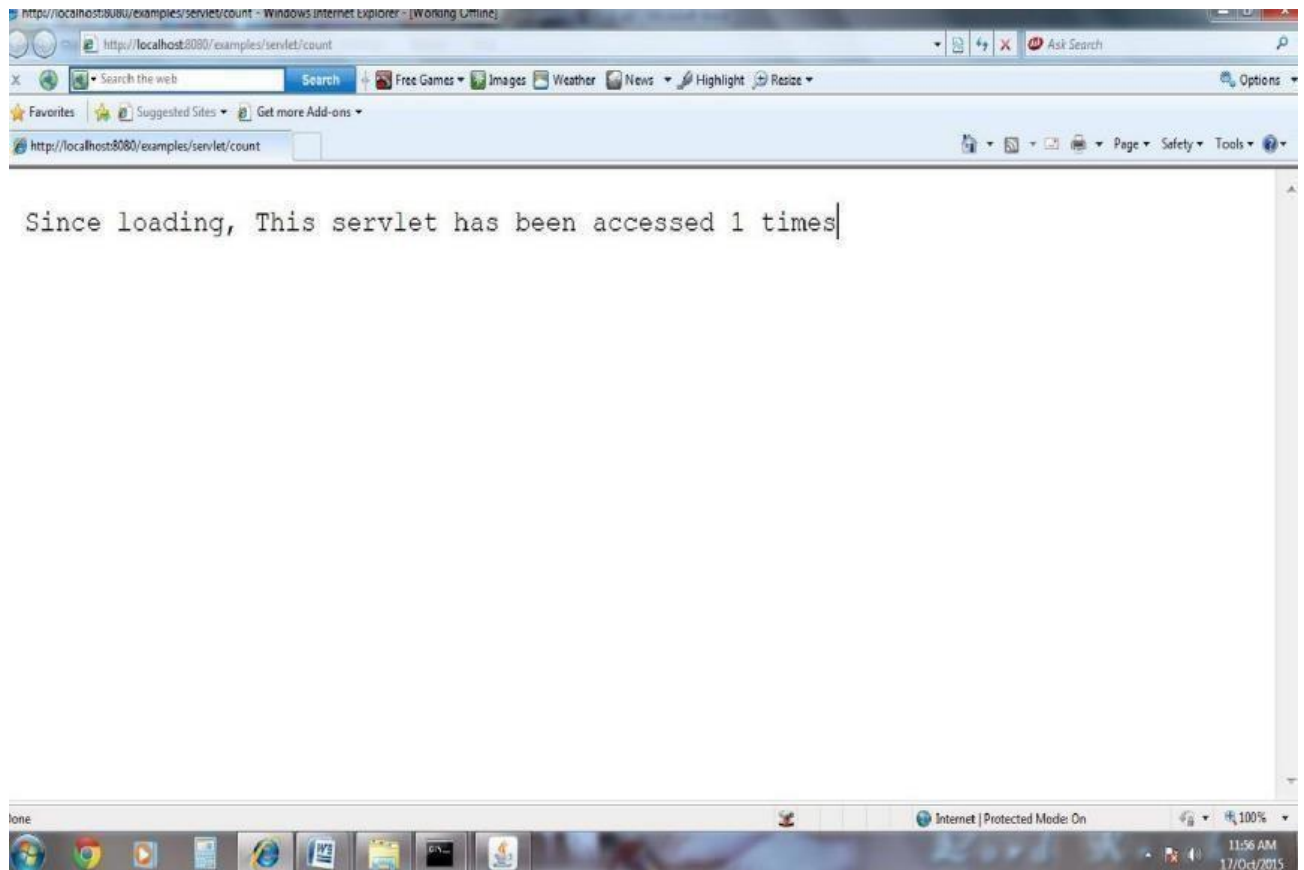\Apache Software Foundation\Tomcat 4.1\common\lib\servlet.jar"

COPY THE FILE: Local Disc(C:)→Program Files→Java→jdk1.7.0→bin→count.class.

PASTE THE FILE:

Local Disc(C:) → Program Files → Apache Software Foundation →Tomcat 4.1 →
Webapps →

Examples → WEB_INF → classes → paste count.class

BROWSER WINDOW:

Practical-08

AIM:- Write a program in Java to develop a Java Bean to demonstrate the use of the same.

Source Code:-

//Java bean for Person

```java
public class Person {   //Private
variables   private
String firstName;  private
String lastName;

 //Getters and setters for variables  public
String getFirstName() { return firstName;
 }

 public void setFirstName(String firstName) {   this.firstName=firstName;
 }
 public String getLastName() {   return
lastName;
 }
 public void setLastName(String lastName) {   this.lastName=lastName;
 }
}
```

//CreateAJavaBean.java.
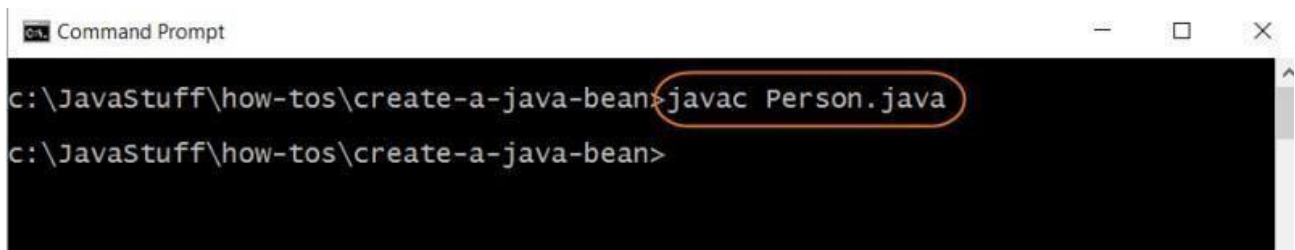
```java
public class CreateAJavaBean {

 public static void main(String args[]) {
 //Instantiate the Java Bean

 Person person = new Person();
 //Set the first name and last name properties
```
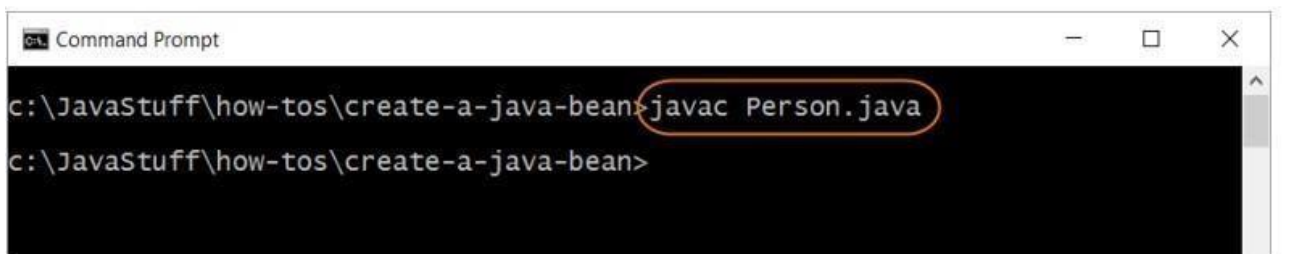
```
person.setFirstName("Stephen");  person.setLastName("Withrow");
// Get the first name and last name properties for output

System.out.println("Java bean data: '' + person.getFirstName()
+ '' '' + person.getLastName() );
}
}
```
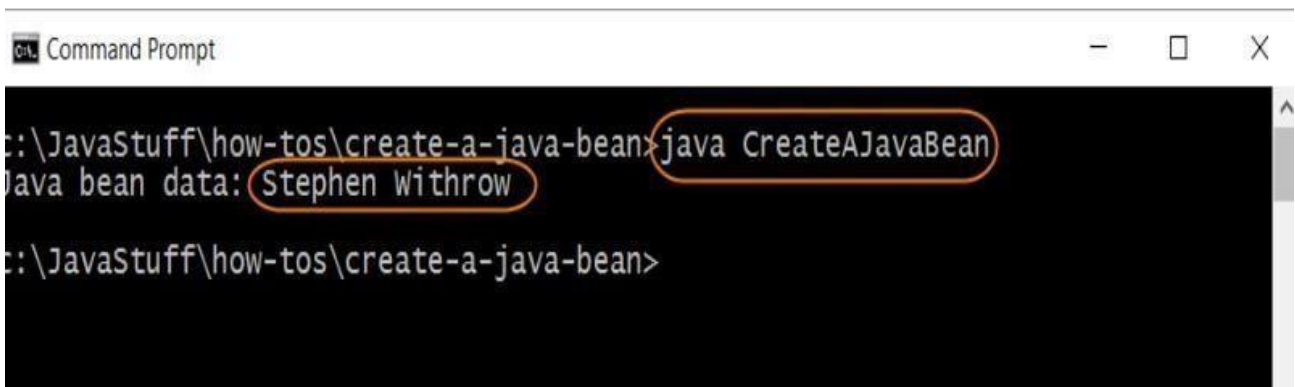
OUTPUT

Practical-09

AIM:- **Write a program in Java chat server using datagram packet and datagram socket.**

Source Code:-

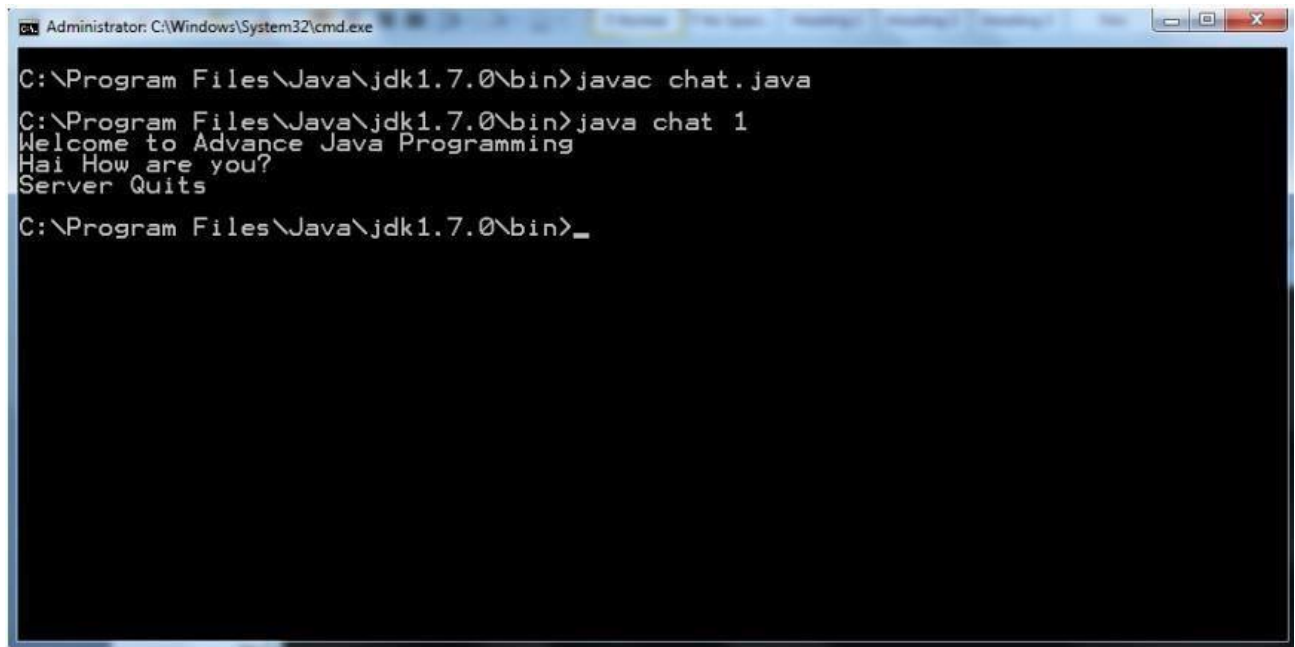**// Develop Chat Server Using Java**

```
import java.net.*;  class chat {   public static int
BUFSIZE=1024; public static int
serverport=1057; public static int
clientport=1058; public static DatagramSocket ds;
public static byte buffer[]=new byte[BUFSIZE];
public static void theserver()throws Exception
{     int     pos=0;
while(true)    {   int
c=System.in.read();
switch(c) { case -1:
System.out.println("Server quits"); return; case
'\n':
DatagramPacket dp=new DatagramPacket (buffer,pos, InetAddress.getLocalHost(),
clientport); ds.send(dp); pos=0; break; default:
buffer[pos++]=(byte)c;
}
} }
public static void theclient()throws Exception
{
while(true)  {
DatagramPacket dp=new DatagramPacket(buffer,buffer.length); ds.receive(dp);
String str=new String(dp.getData(),0,dp.getLength());
System.out.println(str);

}
}
public static void main(String ar[])throws Exception
{
if(ar.length==1)
{
```

```
ds=new DatagramSocket(serverport);  theserver();
} else
{

ds=new DatagramSocket(clientport);   theclient();
}
} }
```
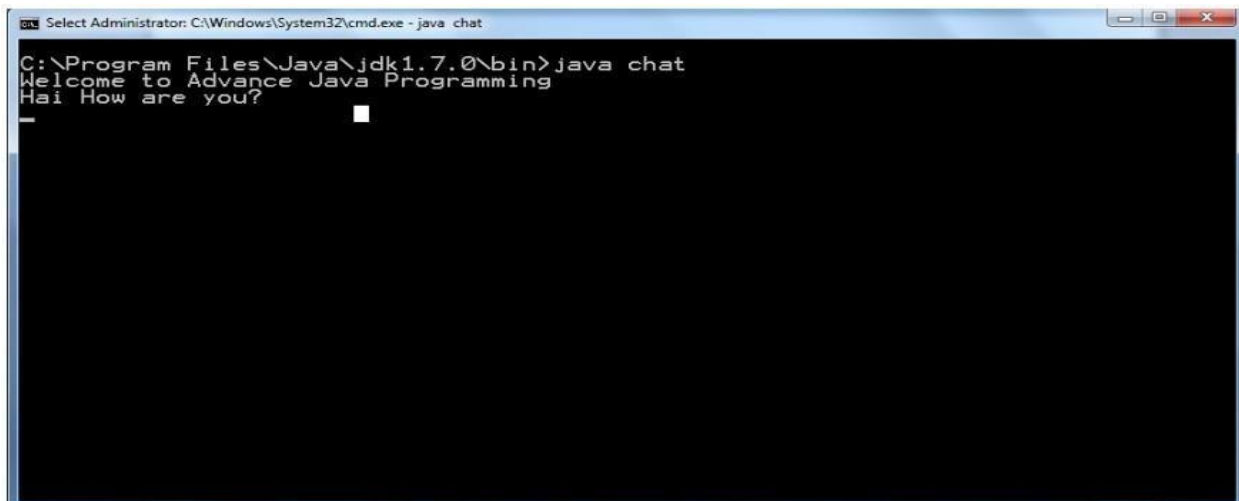
OUTPUT

TOMCAT COMMAND WINDOW:

LOCALHOST CLIENT SIDE COMMAND WINDOW: