NAME – MAYANK BAGAULI ROLL_NO. -200186

1. Write a java program for Client Server communication using UDP Datagram Socket Programming.

Client side :

```
import java.net.* ;

import java.io.* ;


public class client{


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

{

Socket s = new Socket("localhost", 4999);


PrintWriter pr = new PrintWriter(s.getOutputStream());

pr.println("is it working");

pr.println(" UDP is created by Mayank");
```

```
pr.flush();

InputStreamReader in = new
InputStreamReader(s.getInputStream());
 BufferedReader bf = new BufferedReader(in);

String str = bf.readLine();
 System.out.println("server : "+ str);
    }
}
```

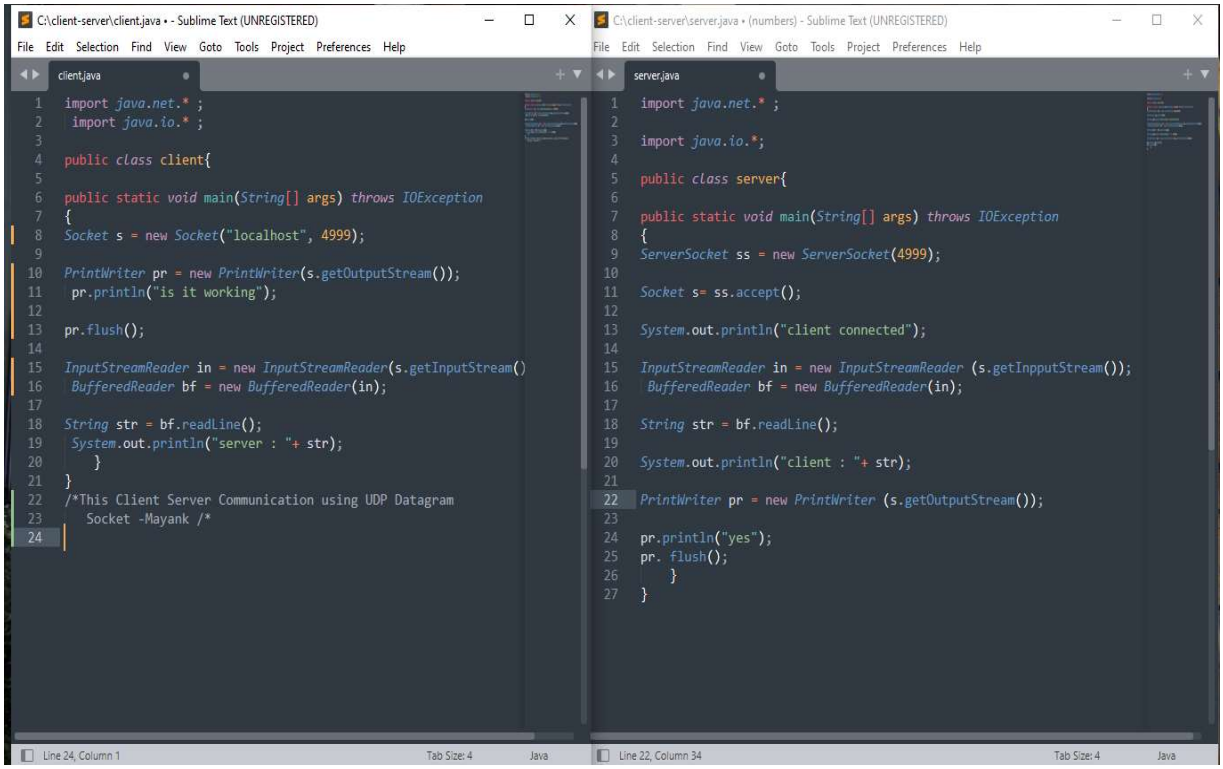
Server side :

```
import java.net.* ;

import java.io.*;
```

```
public class server{

public static void main(String[] args) throws
IOException
{
ServerSocket ss = new ServerSocket(4999);

Socket s= ss.accept();

System.out.println("client connected");

InputStreamReader in = new InputStreamReader
(s.getInpputStream());
 BufferedReader bf = new BufferedReader(in);
String str = bf.readLine();
System.out.println("client : "+ str);
```

```
PrintWriter pr = new PrintWriter
(s.getOutputStream());


pr.println("yes");

pr. flush();

    }

}
```

OUTPUT :



C:\client-server\client.java - Sublime Text (UNREGISTERED)

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client.java

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

public class client{

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

C:\Windows\system32\cmd.exe

```
C:\Users\LENOVO>cd ..

C:\Users>cd ..

C:\>cd  client-server

C:\client-server>javac client.java

C:\client-server>java client
Exception in thread "main" java.net.ConnectException: Connection ref
used: connect
        at java.base/sun.nio.ch.Net.connect0(Native Method)
        at java.base/sun.nio.ch.Net.connect(Net.java:576)
        at java.base/sun.nio.ch.Net.connect(Net.java:565)
        at java.base/sun.nio.ch.NioSocketImpl.connect(NioSocketImpl.
java:588)
        at java.base/java.net.SocksSocketImpl.connect(SocksSocketImp
l.java:333)
        at java.base/java.net.Socket.connect(Socket.java:645)
        at java.base/java.net.Socket.connect(Socket.java:595)
        at java.base/java.net.Socket.<init>(Socket.java:519)
        at java.base/java.net.Socket.<init>(Socket.java:293)
        at client.main(client.java:8)

C:\client-server>
```

Line 21, Column 2 Tab Size: 4 Java

C:\client-server\server.java (numbers) - Sublime Text (UNREGISTERED)

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server.java

```java
import java.net.* ;

import java.io.*;

public class server{
```

C:\Windows\system32\cmd.exe

```
Microsoft Windows [Version 10.0.18363.1316]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\LENOVO>cd ..

C:\Users>cd ..

C:\>cd client-server

C:\client-server>javac server.java

C:\client-server>java server
client connected
client : is it working

C:\client-server>
```

Line 15, Column 66 Tab Size: 4 Java

2.Write a program to demonstrate status of key on Applet window such as KeyPressed, Key Released, KeyUp, KeyDown.

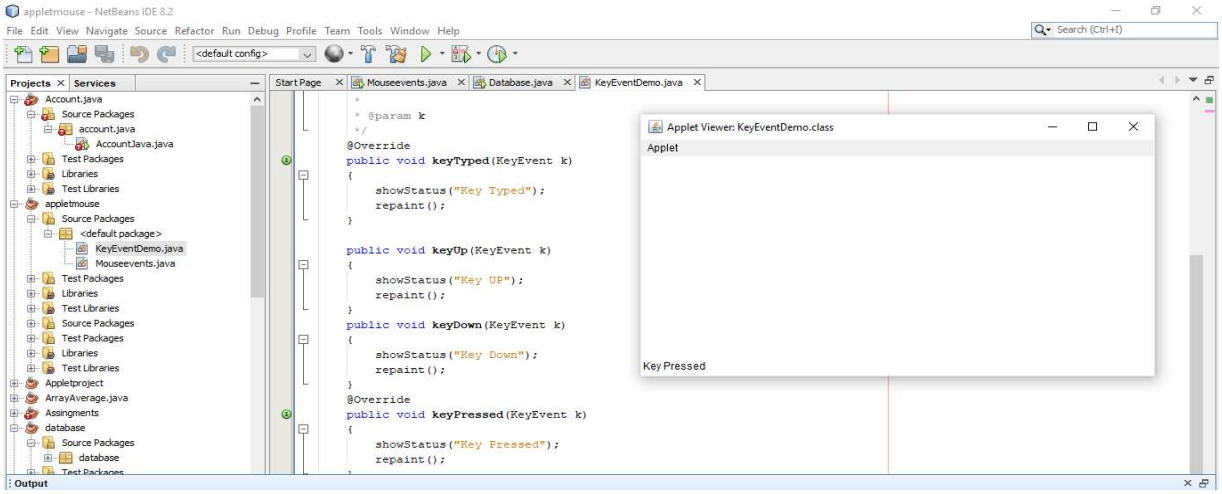
In one code all key commands in single a code

```
import java.awt.*;
import java.applet.*;
import java.awt.event.*;
public class KeyEventDemo extends Applet
implements KeyListener
{
   String msg = "";

   @Override
   public void init()
   {
      addKeyListener(this);
   }

   @Override
   public void keyReleased(KeyEvent k)
   {
```

```
    showStatus("Key Released");
    repaint();
}


/**
 *
 * @param k
 */
@Override
public void keyTyped(KeyEvent k)
{
    showStatus("Key Typed");
    repaint();
}
public void keyUp(KeyEvent k)
{
    showStatus("Key UP");
    repaint();
}
public void keyDown(KeyEvent k)
{
    showStatus("Key Down");
```

```
        repaint();
    }
    @Override
    public void keyPressed(KeyEvent k)
    {
        showStatus("Key Pressed");
        repaint();
    }
    @Override
    public void paint(Graphics g)
    {
        g.drawString(msg, 10, 10);
    }
}
```

OUTPUT:-



RUNNING KeyUp, KeyDown & KeyPressed, Key Released SEPARATELY TO SEE THEIR WORKING :

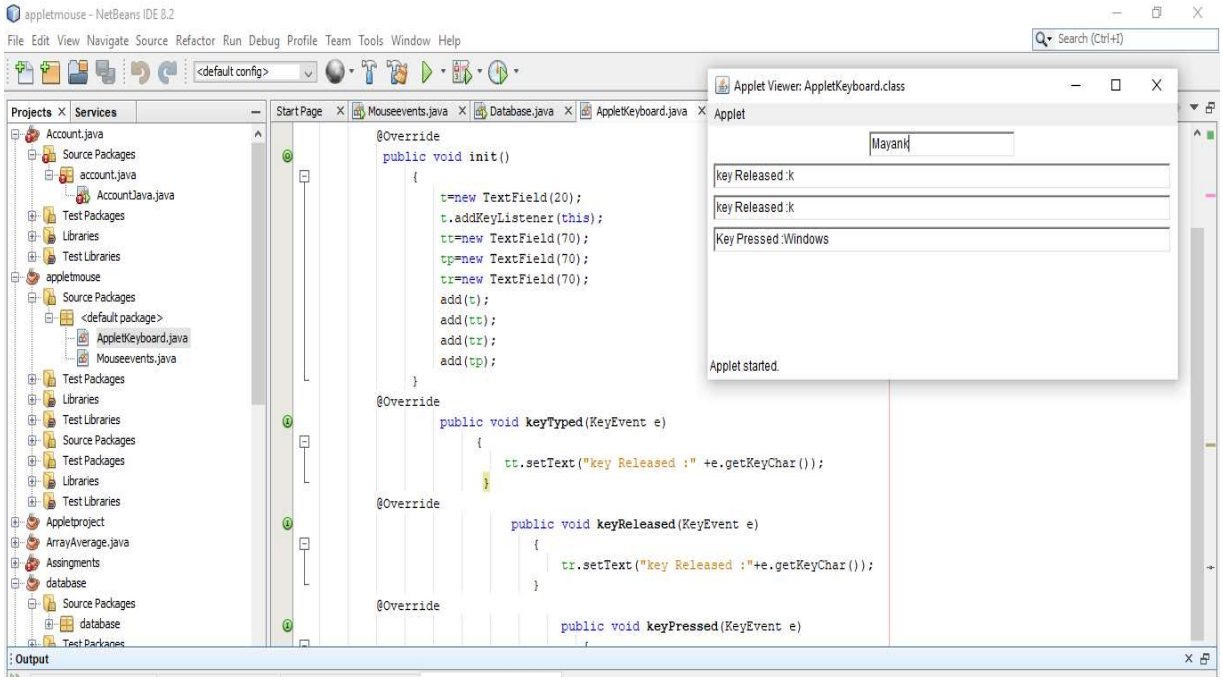
For keypressed & key released using Applet:

```
import java.applet.Applet;
 import java.awt.*;
 import java.awt.event.*;
 public class AppletKeyboard extends Applet
implements KeyListener
  {
      TextField t,tt,tp,tr;
      @Override
       public void init()
          {
              t=new TextField(20);
              t.addKeyListener(this);
              tt=new TextField(70);
              tp=new TextField(70);
              tr=new TextField(70);
              add(t);
              add(tt);
              add(tr);
              add(tp);
```

```
        }
    @Override
            public void keyTyped(KeyEvent e)
                {
                    tt.setText("key Released :"
+e.getKeyChar());
                 }
    @Override
                    public void keyReleased(KeyEvent e)
                      {
                         tr.setText("key Released
:"+e.getKeyChar());
                      }
    @Override
                         public voidkeyPressed(KeyEvente)
                           {
                             int kc;
                           String s;


  kc=e.getKeyCode();
                           s=KeyEvent.getKeyText(kc);
                           tp.setText("Key Pressed :"+s);
```

```
                    }
        }
```

OUTPUT :



For keyUp & keyDown in Applet :

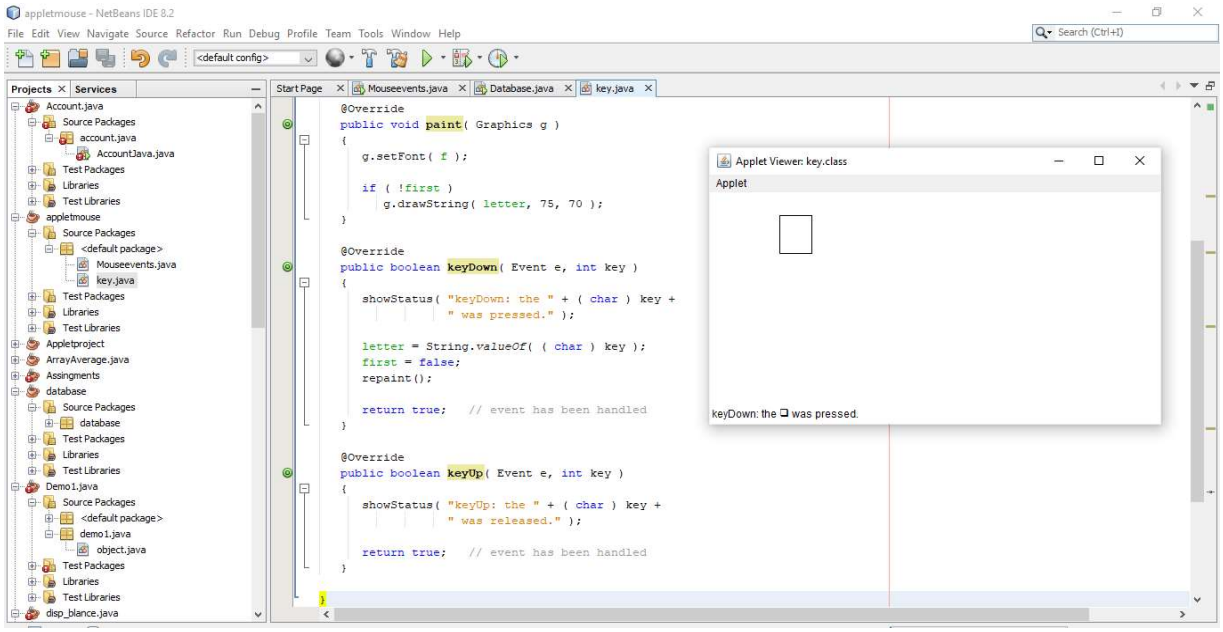
```
import java.applet.Applet;
```

```
import java.awt.*;
public class key extends Applet{
  private Font f;
  private String letter;
  private boolean first;

  @Override
  public void init()
  {
    f = new Font( "Courier", Font.BOLD, 72 );
    first = true;
  }

  @Override
  public void paint( Graphics g )
  {
    g.setFont( f );
```

```
  if ( !first )
    g.drawString( letter, 75, 70 );
}

@Override
public boolean keyDown( Event e, int key )
{
  showStatus( "keyDown: the " + ( char ) key +
              " was pressed." );

  letter = String.valueOf( ( char ) key );
  first = false;
  repaint();

  return true;   // event has been handled
}
```

```
    @Override
    public boolean keyUp( Event e, int key )
    {
        showStatus( "keyUp: the " + ( char ) key +
                    " was released." );

        return true;   // event has been handled
    }
}
```

OUTPUT :



3.Write a java program to create a file with your name, save it in the desktop, write some data on the file and then read and print that data into the console.

```
import java.util.*;
import java.io.*;
class Rfile
{
	public static void main(String args[])throws
IOException
	{
		int j=1;
		char ch;
		Scanner scr=new Scanner(System.in);
		System.out.print("\nEnter File name: ");
		String str=scr.next();
		FileInputStream f=new FileInputStream(str);
```

```
System.out.println("\nContents of the file are");
        int n=f.available();
        System.out.print(j+": ");
        for(int i=0;i<n;i++)
        {
            ch=(char)f.read();
            System.out.print(ch);
            if(ch=='\n')
            {
                System.out.print(++j+": ");

            }

        }
    }
}
```

OUTPUT :

C:\java_filess\Rfile.java (numbers) - Sublime Text (UNREGISTERED)

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server.java | Rfile.java

```java
import java.util.*;
import java.io.*;
class Rfile
{
        public static void main(String args[])throws IOException
        {
                int j=1;
                char ch;
                Scanner scr=new Scanner(System.in);
                System.out.print("\nEnter File name: ");
                String str=scr.next();
                FileInputStream f=new FileInputStream(str);
                System.out.println("\nContents of the file are");
                int n=f.available();
                System.out.print(j+": ");
                for(int i=0;i<n;i++)
                {
                        ch=(char)f.read();
                        System.out.print(ch);
                        if(ch=='\n')
                        {
                                System.out.print(++j+": ");

                        }

                }
        }
}
```

Line 28, Column 2

C:\Windows\system32\cmd.exe

```
C:\Users>cd ..

C:\>cd java_filess

C:\java_filess>javac Rfile.java

C:\java_filess>java Rfile

Enter File name: mayank.txt

Contents of the file are
1: hi this is mayank
2: java file program
3: End Term Practical of
4:  .....Java......
5:
6:
7:
8:
9:
10:
11:
C:\java_filess>
```