

```
C:\Documents and Settings\admin\Desktop\DC and NP Lab manuals>javac MTWClient.java
Note: MTWClient.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.

C:\Documents and Settings\admin\Desktop\DC and NP Lab manuals>java MTWClient
hai
how are u
fine thank u
meet u in the lab
ok
bye

C:\Documents and Settings\admin\Desktop\DC and NP Lab manuals>
```

5.5 Implementing Broadcast application

```
import java.io.*;
import java.net.*;
import java.util.*;
class bserver extends Thread
{
    static ServerSocket ss;
    static Socket cs=null;
    static Vector v=new Vector(100);
    static PrintWriter pw;
    static int id=1;
    public static void main(String args[])
    {
        try
        {
            ss=new ServerSocket(4000);
            InputScan1 is=new InputScan1();
            is.start();
            while(true)
            {
                cs=ss.accept();
                new ClientThread(cs,id).start();
                pw=new PrintWriter(cs.getOutputStream(),true);
                v.addElement(pw);
                System.out.println("connected to client"+id);
                id++;
            }
        }
        catch(Exception e)
```

```

        {}
    }
}

class ClientThread extends bserver
{
    Socket cs;
    int id;
    ClientThread(Socket clientsocket,int i)
    {
        cs=clientsocket;
        id=i;
    }

    public void run()
    {
        try
        {
            BufferedReader in=new BufferedReader(new InputStreamReader(cs.getInputStream()));
            String msg=null;
            while(true)
            {
                msg=in.readLine();
                System.out.println("client"+id+": "+msg);
                if(msg!=null)
                {
                    for(int i=0;i<v.size();i++)
                        ((PrintWriter)v.elementAt(i)).println("client"+id+": "+msg);
                }
            }
        }
        catch(Exception e)
        {}
    }
}

class InputScan1 extends bserver
{
    DataInputStream stdin=new DataInputStream(System.in);
    public void run()
    {
        try
        {
            while(true)
            {
                String msg1;
                msg1=stdin.readLine();
                System.out.println("server:"+msg1);
                if(msg1!=null)
                {

```

```

        for(int i=0;i<v.size();i++)
            ((PrintWriter)v.elementAt(i)).println("server"+"."+msg1);
        }
    }
}
catch(Exception e)
{
}
}
}

```

```

import java.io.*;
import java.net.*;
public class bclient extends Thread
{
    static Socket cs=null;
    public static void main(String args[])
    {
        try
        {
            cs=new Socket("localhost",4000);
            System.out.println("connected to server");
            BufferedReader in=new BufferedReader(new InputStreamReader(cs.getInputStream()));
            InputScan is=new InputScan();
            is.start();
            while(true)
            {
                String msg;
                msg=in.readLine();
                System.out.println(msg);
            }
        }
        catch(Exception e)
        {
        }
    }
}

```

```

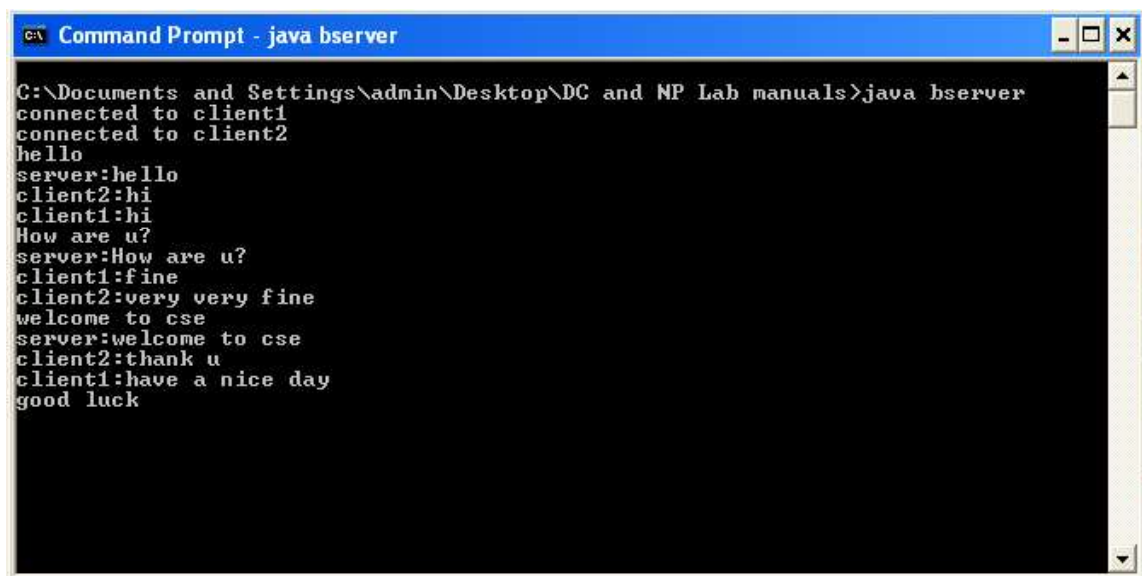
class InputScan extends bclient
{
    DataInputStream stdin=new DataInputStream(System.in);
    public void run()
    {
        try
        {
            PrintWriter out=new PrintWriter(cs.getOutputStream(),true);
            while(true)
            {
                String msg;
                msg=stdin.readLine();
            }
        }
    }
}

```

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

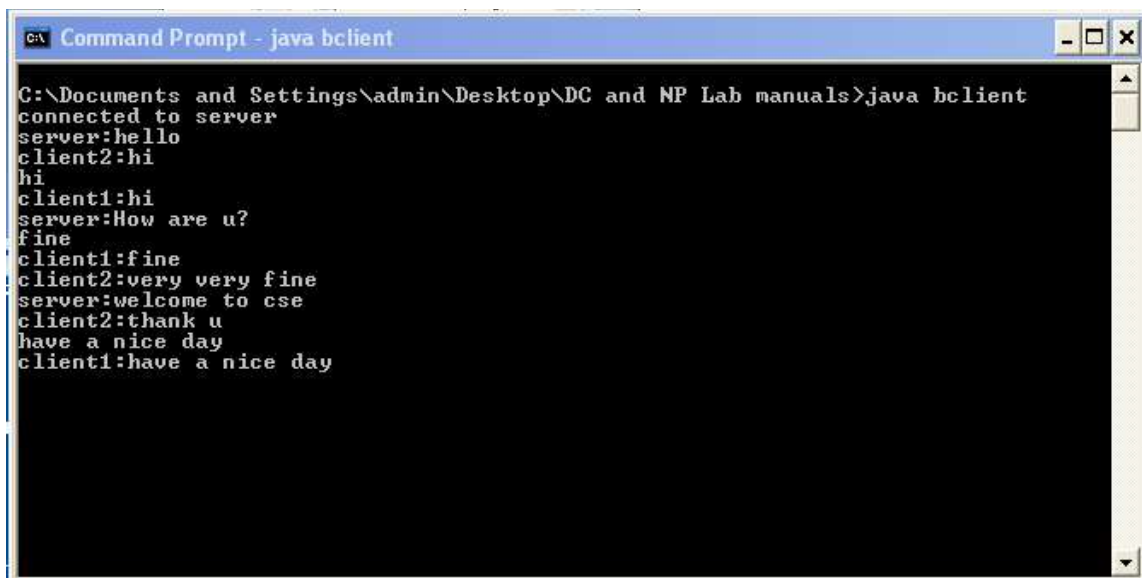
OUTPUT

Server



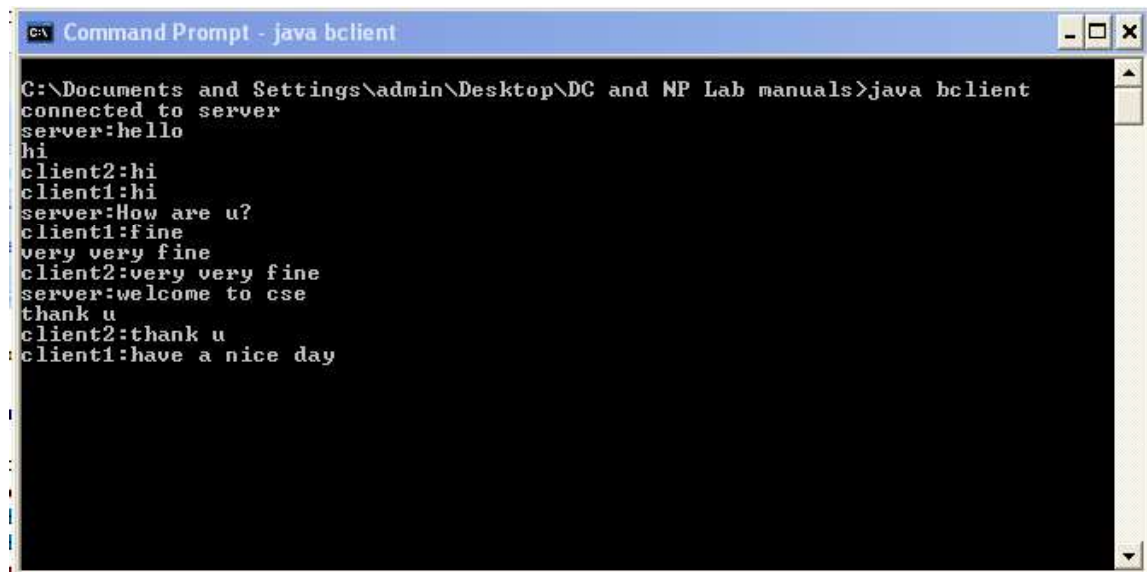
```
C:\Documents and Settings\admin\Desktop\DC and NP Lab manuals>java bserver
connected to client1
connected to client2
hello
server:hello
client2:hi
client1:hi
How are u?
server:How are u?
client1:fine
client2:very very fine
welcome to cse
server:welcome to cse
client2:thank u
client1:have a nice day
good luck
```

Client 1



```
C:\Documents and Settings\admin\Desktop\DC and NP Lab manuals>java bclient
connected to server
server:hello
client2:hi
hi
client1:hi
server:How are u?
fine
client1:fine
client2:very very fine
server:welcome to cse
client2:thank u
have a nice day
client1:have a nice day
```

Client 2



```
Command Prompt - java bclient

C:\Documents and Settings\admin\Desktop\DC and NP Lab manuals>java bclient
connected to server
server:hello
hi
client2:hi
client1:hi
server:How are u?
client1:fine
very very fine
client2:very very fine
server:welcome to cse
thank u
client2:thank u
client1:have a nice day
```

5.6 Implementing Simple File Transfer Protocol (SFTP)

This program is used to build a server and client to transfer file.

```
import java.io.*;
import java.net.*;
public class SimpleFileServer
{
    public static void main(String args[]) throws Exception
    {
        try
        {
            ServerSocket ss=new ServerSocket(1334);
            Socket s=ss.accept();
            DataInputStream in=new DataInputStream(s.getInputStream());
            DataOutputStream out=new DataOutputStream(s.getOutputStream());
            String str;
            int x=0;
            str=in.readUTF();
            File f=new File(str);
            if(f.exists())
            { out.write(x);

                FileInputStream fin=new FileInputStream(str);
                int i;
                do
                {
                    i=fin.read();
                    out.write(i);
                }
                while(i!=-1);
            }
        }
    }
}
```