**Client:**

import java.io.\*;

import java.net.\*;

import java.util.\*;

public class client{

public static void main(String args[])

{try{

Socket s= new Socket("localhost",6777);

System.out.println("Enter ip address");

Scanner sc=new Scanner(System.in);

String ip=sc.nextLine();

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

dos.writeUTF(ip);

dos.flush();

dos.close();}

catch(Exception e){}}}

**Server:**

import java.io.\*;

import java.net.\*;

public class Server{

public static void main(String args[]){

try{

ServerSocket ss=new ServerSocket(6777);

Socket s=ss.accept();

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

String ip=dis.readUTF();

if ( ip == null || ip.isEmpty() ){

System.out.println("invalid IP Address");

System.exit(0);}

if (ip.startsWith("0")){

System.out.println("invalid IP Address");

System.exit(0);}

String[] parts = ip.split( "\\." );

if ( parts.length != 4 ){

System.out.println("invalid IP Address");

System.exit(0);}

if(ip.endsWith(".")){

System.out.println("invalid ip");

System.exit(0);}

int a= Integer.parseInt(parts[0]);

if(a>=0 && a<=127){

System.out.println("Ip address belong to class A");

System.out.println("Net id:"+parts[0]);

System.out.println("Hostid id:"+parts[1]+"."+parts[2]+"."+parts[3]);

System.out.println("Number of Networks:"+(long)Math.pow(2, 7));

System.out.println("Number of hosts:"+(long)(Math.pow(2,24)-2));}

else if(a>=128 && a<=191){

System.out.println("Ip address belong to class B");

System.out.println("Net id:"+parts[0]+"."+parts[1]);

System.out.println("Hostid id:"+parts[2]+"."+parts[3]);

System.out.println("Number of Networks:"+(long)Math.pow(2, 14));

System.out.println("Number of hosts:"+(long)(Math.pow(2,16)-2));}

else if(a>=192 && a<=223){

System.out.println("Ip address belong to class C");

System.out.println("Net id:"+parts[0]+"."+parts[1]+"."+parts[2]);

System.out.println("Hostid id:"+parts[3]);

System.out.println("Number of Networks:"+(long)Math.pow(2, 21));

System.out.println("Number of hosts:"+(long)(Math.pow(2,8)-2));}

else if(a>=224 && a<=239){

System.out.println("Ip address belong to class D");

System.out.println("It is a multicast address"); }

else if(a>=240 && a<=255){

System.out.println("Ip address belong to class E");

System.out.println("It is a used for Reserved future use");}

else{

System.out.println("ip address is invalid");}}

catch(Exception e)}}}



