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package net;
//import java.io.*;

import java.util.regex.Matcher;
import java.util.regex.Pattern;

//import java.net.InetAddress;
//import java.util.*
;
public class net {

    public static void main(String[] args)
        throws Exception
    {
        if(args.length==0||args.length<2)
        {
            System.out.println("No or less Arguments specified.\nTry
again.");
            System.exit(0);
        }

        String ip=args[0];

        if(validate(ip)==false)
        {
            System.out.println("Invalid IP address specified.\nProvide
valid IP address.");
            System.exit(0);
        }

        //System.out.println("Enter mask:\n");
        int mask = Integer.parseInt(args[1]);
        //String networkAddr="";

        String[] ipAddrParts = ip.split("[.]");

        String a, b, c, d;
        a = Integer.toBinaryString(Integer.parseInt(ipAddrParts[0]));
        b = Integer.toBinaryString(Integer.parseInt(ipAddrParts[1]));
        c = Integer.toBinaryString(Integer.parseInt (ipAddrParts[2]));
        d = Integer.toBinaryString(Integer.parseInt (ipAddrParts[3]));

        a = String.format("%8s", a).replace(" ", "0");
        b = String.format("%8s", b).replace(" ", "0");
        c = String.format("%8s", c).replace(" ", "0");
        d = String.format("%8s", d).replace(" ", "0");

        String binaryIP = a+b+c+d;

        String netmask = "";
        for(int i=0;i<32;i++)
        {
            if(i<mask)

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        netmask += "1";
    else
        netmask += "0";
}

String andResult = "";

for(int i=0;i<32;i++)
{
    if(binaryIP.charAt(i)=='1'&&netmask.charAt(i)=='1')
        andResult+="1";
    else
        andResult+="0";
}

a = andResult.substring(0, 8);
b = andResult.substring(8, 16);
c = andResult.substring(16, 24);
d = andResult.substring(24, 32);

int w,x,y,z;
w = Integer.parseInt(a, 2);
x = Integer.parseInt(b, 2);
y = Integer.parseInt(c, 2);
z = Integer.parseInt(d, 2);

String netNum =
Integer.toString(w)+"."+Integer.toString(x)+"."+Integer.toString(y)+"."+Integer.toStr
ing(z);

System.out.println("Network Address is:"+netNum);
System.out.println("Every 10th usable IP addresses are:");
z=z+10;
while(z<=255)
{
    //z+=10
    netNum =
Integer.toString(w)+"."+Integer.toString(x)+"."+Integer.toString(y)+"."+Integer.toStr
ing(z);

    z=z+10;
    System.out.println(netNum);
}

}

private static boolean validate(String ip) {
    String pattern = "^([01]?\\d\\d?|2[0-4]\\d|25[0-5])\\. " +
        "([01]?\\d\\d?|2[0-4]\\d|25[0-5])\\. " +
        "([01]?\\d\\d?|2[0-4]\\d|25[0-5])\\. " +
        "([01]?\\d\\d?|2[0-4]\\d|25[0-5])$";

    Pattern ptrn = Pattern.compile(pattern);
    Matcher match= ptrn.matcher(ip);

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        if(match.matches())  
            return true;  
        return false;  
    }  
}
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