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package src;

import java.io.BufferedReader;
import java.io.InputStreamReader;
import java.net.URL;
import java.util.Scanner;

public class ACSL_VedaKalwala_Contest4 {

    public static int moves(int d, int n, String[] m)
    { int f = 0;
    if(prime(n).equals("prime"))
    {
        f = n+6;
        for(int i=n+1; i<=n+6; i++)
        {
            if(!m[i].equals("-"))
            {
                f = i-1;
                break;
            }
        }
    }
    else if(n==9||n==16||n==25||n==36||n==49)
    {
        f = n-d;
        for(int i=n-1; i>=n-6; i--)
        {
            if(!m[i].equals("-"))
            {
                f = i+1;
                break;
            }
        }
    }
    else if(turn(d,n,m).equals("turn"))
    {
        for(int i=(n-d); i<=n; i++)
        {
            if(i<52&&i%d==0&&m[i]=="-")
            {
                f = i;
                break;
            }
            else
            {
                f = n-d;
            }
        }
    }
    else

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    {
        f = n;
    }
    return f;
}
public static String turn (int d, int n, String[] m)
{
    if (d>=2)
    {
        for(int i=n-d; i<=n; i++)
        {
            if(i+2<=n&&((i==6&&i+1==7&&i+2==8)|| (i==11
&&i+1==12&&i+2==13)|| (i==16&&i+1==17&&i+2==18)|| (i==21&&i+1==22
&&i+2==23)|| (i==26&&i+1==27&&i+2==28)|| (i==34&&i+1==35&&i+2==
36)|| (i==39&&i+1==40&&i+2==41)|| (i==44&&i+1==45&&i+2==46)|| (i==49
&&i+1==50&&i+2==51)))
            {
                return "turn";
            }
        }
    }
    return "no turn";
}
public static String prime(int num)
{
    int count = 0;
    for(int i=2; i<num; i++)
    {
        if(num%i==0)
        {
            count++;
        }
    }
    if(count==0)
    {
        return "prime";
    }
    return "not prime";
}
public static void main(String[] args) {
    // TODO Auto-generated method stub

    String urlString
="http://www.datafiles.acsl.org/2020/contest4/int-sample-
input.txt";
    BufferedReader br;
    try
    {
        URL url = new URL(urlString);
        br = new BufferedReader(new
InputStreamReader(url.openStream()));
        String st = new String();

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int line = 0;
while ((st = br.readLine()) !=null)
{
    line++;
    String[] input = st.split(" ");
    String[] markers = new String[53];
    for(int i=1;i<markers.length;i++)
    {
        markers[i]="-";
    }
    markers[Integer.parseInt(input[0])] = "x";
    markers[Integer.parseInt(input[1])] = "x";
    markers[Integer.parseInt(input[2])] = "x";
    markers[Integer.parseInt(input[3])] = "y";
    markers[Integer.parseInt(input[4])] = "y";
    markers[Integer.parseInt(input[5])] = "y";
    int[] rolls = new
int[Integer.parseInt(input[6])];
    for(int j=7;j<input.length;j++)
    {
        rolls[j-7]=Integer.parseInt(input[j]);
    }
    int l = 0;
    int n = 0;
    int d = 0;
    int f = 0;
    for(int k=0;k<rolls.length;k++)
    {
        for(int z=markers.length-1;z>0;z--)
        {
            if(markers[z].equals("y"))
            {
                l = z;
            }
        }
        d = rolls[k];
        n = l+d;
        if(n>=52)
        {
            markers[l] = "-";
        }
        else if(markers[n].equals("-"))
        {
            f = moves(d, n, markers);
            markers[l] = "-";
            markers[f] = "y";
        }
        else
        {
            f = moves(d,n+1,markers);
        }
    }
}

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String ans = "";
for(int m=1;m<markers.length;m++)
{
    if(markers[m].equals("y"))
    {
        ans=ans+m+" ";
    }
}
System.out.println((line)+" "+ans);
}
}
catch (Exception e) {
}
}
}
```