

```
public class Q4
{
    public static int  funct( int x)
    {    // this function returns  $11^x \bmod 71$ 
        int answer=1;
        for(int j=1; j <=x;j++)
        {
            answer =11*answer;
            answer = answer % 71;
        }
        return (answer);
    }

    public static void main(String a[])
    {

        for(int i = 1; i < 120;i++)
        {
            int y= funct(i); // this evaluates  $11^i \bmod 71$ 
            if( (y - 21) % 71==0)
            { // i is a solution
                System.out.println(i);
            }
        }

        for(int i = 0; i <=19;i++)
        {
            if((i*i+i-i) % 19 ==0)
            {
                System.out.println(i);
            }
        }

    }
}
```