## **Security Functions**



Before we jump into security concepts, let us familiarize ourselves with the mathematical background required for it.

Set X is a collection of elements. Here,  $X=\{1,2,3\}$  is one such example. A collection of integers is also a set.

Given two sets, X and Y, we define a function f that maps every element in X to precisely 1 element in Y.

If  $X=\{1,2,3\}$  and  $Y=\{lpha,\gamma,\delta\}$ , the function f will return:

$$f(1)=lpha$$
,  $f(2)=\gamma$  and  $f(3)=\delta$ .

Let us define a function  $f_1(x)=x_r$ , where  $x\in X$  and  $x_r\in Y$ . Here,  $x_r$  is defined as the remainder of x when divided by 11.

Your task is to complete the function that takes the input  $oldsymbol{x}$  and  $oldsymbol{returns}$   $oldsymbol{x}_r$ 

## **Constraints**

$$1 \le x \le 1000$$