

# Mice and Cheese

There are two mice and  $n$  different types of cheese, each type of cheese should be eaten by exactly one mouse.

A point of the cheese with index  $i$  (**0-indexed**) is:

- $\text{reward1}[i]$  if the first mouse eats it.
- $\text{reward2}[i]$  if the second mouse eats it.

You are given a positive integer array  $\text{reward1}$ , a positive integer array  $\text{reward2}$ , and a non-negative integer  $k$ .

Return ***the maximum points the mice can achieve if the first mouse eats exactly  $k$  types of cheese.***

## **Example 1:**

**Input:**  $\text{reward1} = [1,1,3,4]$ ,  $\text{reward2} = [4,4,1,1]$ ,  $k = 2$

**Output:** 15

**Explanation:** In this example, the first mouse eats the 2<sup>nd</sup> (0-indexed) and the 3<sup>rd</sup> types of cheese, and the second mouse eats the 0<sup>th</sup> and the 1<sup>st</sup> types of cheese.

The total points are  $4 + 4 + 3 + 4 = 15$ .

It can be proven that 15 is the maximum total points that the mice can achieve.

## **Example 2:**

**Input:**  $\text{reward1} = [1,1]$ ,  $\text{reward2} = [1,1]$ ,  $k = 2$

**Output:** 2

**Explanation:** In this example, the first mouse eats the 0<sup>th</sup> (0-indexed) and 1<sup>st</sup> types of cheese, and the second mouse does not eat any cheese.

The total points are  $1 + 1 = 2$ .

It can be proven that 2 is the maximum total points that the mice can achieve.

## **Constraints:**

- $1 \leq n == \text{reward1.length} == \text{reward2.length} \leq 10^5$
- $1 \leq \text{reward1}[i], \text{reward2}[i] \leq 1000$
- $0 \leq k \leq n$