

# Counting the Ways

Little Walter likes playing with his toy scales. He has  $N$  types of weights. The  $i^{th}$  weight type has weight  $a_i$ . There are infinitely many weights of each type.

Recently, Walter defined a function,  $F(X)$ , denoting the number of different ways to combine several weights so their total weight is equal to  $X$ . Ways are considered to be different if there is a type which has a different number of weights used in these two ways.

For example, if there are **3** types of weights with corresponding weights **1**, **1**, and **2**, then there are **4** ways to get a total weight of **2**:

1. Use **2** weights of type **1**.
2. Use **2** weights of type **2**.
3. Use **1** weight of type **1** and **1** weight of type **2**.
4. Use **1** weight of type **3**.

Given  $N$ ,  $L$ ,  $R$ , and  $a_1, a_2, \dots, a_N$ , can you find the value of  $F(L) + F(L + 1) + \dots + F(R)$ ?

## Input Format

The first line contains a single integer,  $N$ , denoting the number of types of weights.

The second line contains  $N$  space-separated integers describing the values of  $a_1, a_2, \dots, a_N$ , respectively

The third line contains two space-separated integers denoting the respective values of  $L$  and  $R$ .

## Constraints

- $1 \leq N \leq 10$
- $0 < a_i \leq 10^5$
- $a_1 \times a_2 \times \dots \times a_N \leq 10^5$
- $1 \leq L \leq R \leq 10^{17}$

**Note:** The time limit for C/C++ is **1** second, and for Java it's **2** seconds.

## Output Format

Print a single integer denoting the answer to the question. As this value can be very large, your answer must be modulo  $10^9 + 7$ .

## Sample Input

```
3
1 2 3
1 6
```

## Sample Output

```
22
```

## Explanation

$$F(1) = 1$$

$$F(2) = 2$$

$$F(3) = 3$$

$$F(4) = 4$$

$$F(5) = 5$$

$$F(6) = 7$$