# Valar Morghulis Question-3

Given an array of integers **arr** of size **n** and an integer **m** where m is the number of workers and **n** is the number of boxes where the weight of the $i^{th}$ box is **arr[i]**.

You have to give boxes to the workers such that:-

- A particular box is given to only one worker.
- Every worker must be given at least one box.
- Only contiguous boxes are given to a worker i.e., for example, a particular worker can be given box number 1, 2 and 3 but not 1, 5 and 7.
- The maximum total weight given to a worker is minimum.

**Input Format**

- First line contains a single integer **n**.
- Second line contains **n** space separated integers.
- Third line contains a single integer **m**.

**Constraints**

- $1 \leq n, m, arr[i] \leq 10^5$
- $m \leq n$

**Output Format**

- Print the maximum weight given to any of the workers.

**Sample Input 0**

```
4
12 34 67 90
2
```

**Sample Output 0**

```
113
```

**Explanation 0**

There are 2 workers. Boxes can be given in following ways:-

1. [12] and [34, 67, 90]. Maximum weight is given to second worker with 34 + 67 + 90 = 191.
2. [12, 34] and [67, 90]. Maximum weight is given to second worker with 67 + 90 = 157.

3. [12, 34, 67] and [90]. Maximum weight is given to first worker with 12 + 34 + 67 = 113.

Of the 3 cases, Option 3 has the minimum weight = 113.