Sum of the smallest K elements of an array

Find the sum of the smallest K elements of an array of N integers.

Input

The first line of input gives the size of the array, N ($0 < N < 2^{20}$). The following N lines to have elements of the array, one element per line ($0 < element < 2^{20}$). The following line gives K ($0 < K < 2^{20}$ and K <= N).

Output

Sum of the smallest K elements of the given array.

Example

Input:

```
5
20
40
30
50
10
3
```

Output:
```
60
```