Subset Sum

You are given a list of *N* positive integers, *A = {a[1], a[2], ..., a[N]}* and another integer *S*. You have to find whether there exists a non-empty subset of *A* whose sum is greater than or equal to *S*.

You have to print the size of minimal subset whose sum is greater than or equal to S. If there exists no such subset then print `-1` instead.

Input
First line will contain an integer, *N*, which is the size of list *A*. Second line contains *N* space separated integers, representing the elements of list *A*. In third line there is an integer, *T*, which represent the number of test cases to follow. Then follows *T* lines. Each one of them contains an single integer, *S*.

Output
For each test case, print the size of minimal subset whose sum is greater than or equal to *S*. If there's no such subset then print `-1`.

Constraints
$1 \leq N \leq 10^5$
$1 \leq a[i] \leq 10^9$
$1 \leq T \leq 10^5$
$1 \leq S \leq 10^{15}$

Note
Two subsets are different if there's an element *a[i]* which exists in one of them and not in other. That is, for set `A = {4, 4}` there are four possible subsets `{}`, `{a[1]}`, `{a[2]}` and `{a[1], a[2]}`.

Sample Input

```
4
4 8 10 12
4
4
13
30
100
```

Sample Output

```
1
2
3
-1
```

Explanation
Sample Case #00: For `S = 4`, we can select any one element of set *A* as each of them is greater than or equal to 4.
Sample Case #01: There are many possible subsets of size 2 whose sum is not less than *13*. They are `{4, 10}`, `{4, 12}`, `{8, 10}`, `{8, 12}` and `{10, 12}`.
Sample Case #02: Subset `{8, 10, 12}`, with sum 30, is the only subset of size 3 whose sum is not less than `S = 30`.
Sample Case #03: Even after selecting all the elements of *A*, we can't exceed `S = 100`.