

INPUT:

Input an integer n , and then input n numbers.

Input an integer m , which means there are m queries.

OUTPUT:

For each query, output the rank of number.

Binary Search Pseudo code:

```

1:  $n \leftarrow INPUT$  ▷ Input n
2: for  $i \leftarrow 0$  to  $n - 1$  do ▷ Input n sorted numbers
3:    $A[i] \leftarrow INPUT$ 
4: end for
5:
6:  $m \leftarrow INPUT$  ▷ Input m, means m queries
7: for  $i$  in  $1$  to  $m$  do ▷ Input m numbers
8:    $x \leftarrow INPUT$ 
9:    $i \leftarrow 0$  ▷ Initialize i and j
10:   $j \leftarrow n - 1$ 
11:  while  $i < j$  do
12:     $mid \leftarrow (i + j)/2$ 
13:    if  $x \leq A[mid]$  then ▷ x is smaller than middle number
14:       $j \leftarrow mid$  ▷ update j
15:    else
16:       $i \leftarrow mid + 1$  ▷ update i
17:    end if
18:  end while
19:   $OUTPUT \leftarrow i$  ▷ Output i as answer
20: end for

```