

Find k-th smallest element in given n ranges

Given **n** ranges of the form $[p, q]$ which denotes all the numbers in the range $[p, p + 1, p + 2, \dots, q]$. Given another integer **q** denoting the number of queries. The task is to return the **kth** smallest element for each query (assume $k > 1$) after **combining** all the ranges.

In case the **kth** smallest element doesn't exist return -1.

Example 1:

Input:

```
n = 2, q = 3
range[] = {{1, 4}, {6, 8}}
queries[] = {2, 6, 10}
```

Output:

```
2 7 -1
```

Explanation:

After combining the given ranges, the numbers become 1 2 3 4 6 7 8. As here 2nd element is 2, so we print 2. As 6th element is 7, so we print 7 and as 10th element doesn't exist, so we print -1.

Example 2:

Input:

```
n = 2, q = 2
range[] = {{2, 6}, {5, 7}}
queries[] = {5, 8}
```

Output:

```
6 -1
```

Explanation:

After combining the ranges, we'll take **Union** of

```
range= {2,3,4,5,6,7}, here 5th smallest number  
will be 6 and 8th smallest number does not exists.
```

Your Task:

You don't need to read input or print anything. Your task is to complete the function **kthSmallestNum()** which takes a $n * 2$ array denoting the ranges and an array denoting the queries.

Expected Time Complexity: $O(n \log n + q * n)$

Expected Auxiliary Space: $O(q)$

Constraints:

$$1 \leq n \leq 10^3$$

$$1 \leq \text{range}[i][0] \leq \text{range}[i][1] \leq 2 * 10^9$$

$$1 \leq q \leq 500$$

$$1 \leq \text{queries}[i] \leq 2 * 10^9$$