

## K-th element of two sorted Arrays

Given two sorted arrays **arr1** and **arr2** of size **N** and **M** respectively and an element **K**. The task is to find the element that would be at the kth position of the final sorted array.

### **Example 1:**

**Input:**

```
arr1[] = {2, 3, 6, 7, 9}
```

```
arr2[] = {1, 4, 8, 10}
```

```
k = 5
```

**Output:**

```
6
```

**Explanation:**

The final sorted array would be -

```
1, 2, 3, 4, 6, 7, 8, 9, 10
```

The 5th element of this array is 6.

### **Example 2:**

**Input:**

```
arr1[] = {100, 112, 256, 349, 770}
```

```
arr2[] = {72, 86, 113, 119, 265, 445, 892}
```

```
k = 7
```

**Output:**

```
256
```

**Explanation:**

Final sorted array is - 72, 86, 100, 112,

```
113, 119, 256, 265, 349, 445, 770, 892
```

7th element of this array is 256.

**Your Task:**

You don't need to read input or print anything. Your task is to complete the function **kthElement()** which takes the arrays **arr1[]**, **arr2[]**, its size **N** and **M** respectively and an integer **K** as inputs and returns the element at the Kth position.

**Expected Time Complexity:**  $O(\log(N) + \log(M))$

**Expected Auxiliary Space:**  $O(\log(N))$

**Constraints:**

$1 \leq N, M \leq 10^6$

$0 \leq \text{arr1}_i, \text{arr2}_i < \text{INT\_MAX}$

$1 \leq K \leq N+M$