

Element Swapping

Given a sequence of n integers arr , determine the *lexicographically smallest* sequence which may be obtained from it after performing at most k element swaps, each involving a pair of consecutive elements in the sequence.

Note: A list x is *lexicographically smaller* than a different equal-length list y if and only if, for the earliest index at which the two lists differ, x 's element at that index is smaller than y 's element at that index.

Signature

```
int[] findMinArray(int[] arr, int k)
```

Input

n is in the range $[1, 1000]$.

Each element of arr is in the range $[1, 1,000,000]$.

k is in the range $[1, 1000]$.

Output

Return an array of n integers $output$, the lexicographically smallest sequence achievable after at most k swaps.

Example 1

$n = 3$

$k = 2$

$arr = [5, 3, 1]$

$output = [1, 5, 3]$

We can swap the 2nd and 3rd elements, followed by the 1st and 2nd elements, to end up with the sequence $[1, 5, 3]$. This is the lexicographically smallest sequence achievable after at most 2 swaps.

Example 2

$n = 5$

$k = 3$

$arr = [8, 9, 11, 2, 1]$

$output = [2, 8, 9, 11, 1]$

We can swap $[11, 2]$, followed by $[9, 2]$, then $[8, 2]$.