

Fast Minimum

You are given an array A (indexed from 1 to N) of N integers and an integer K. You need to print N-K+1 integers where the ith integer represents the minimum of A[i], A[i+1],...,A[i+K-1].

Constraints:

$1 \leq T \leq 1000$

$1 \leq N \leq 10000$

$1 \leq K \leq N$

$0 \leq A[i] < 10^9$

Input Format

First line contains T denoting number of test cases. First line of each test case contains two integers N and K, as described above. The next line contains N space separated integers denoting the array.

Output Format

For each test case, print N-K+1 space separated integers as described above.

Sample Input

```
2
3 1
3 2 1
5 2
1 2 3 4 5
```

Sample Output

```
3 2 1
1 2 3 4
```