Reverse array in groups

Given an array, reverse every sub-array formed by consecutive k elements.

Input:

The first line of input contains a single integer T denoting the number of test cases. Then T test cases follow. Each test case consist of two lines. The first line of each test case consists of an integer N, where N is the size of array. The second line of each test case contains N space separated integers denoting array elements. The third line of each test case consists of an integer K.

Output:

Corresponding to each test case, in a new line, print the modified array.

Constraints:

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1 \le T \le 100

1 \le N \le 500

1 \le A[i] \le 500
```

Example:

Input

Output

3 2 1 5 4