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## Ups and Downs

Problem Code: **ANUUND**

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### Problem description

You will be given a zero-indexed array **A**. You need to rearrange its elements in such a way that the following conditions are satisfied:

- $A[i] \leq A[i+1]$  if  $i$  is even.
- $A[i] \geq A[i+1]$  if  $i$  is odd.

In other words the following inequality should hold:  $A[0] \leq A[1] \geq A[2] \leq A[3] \geq A[4]$ , and so on. Operations  $\leq$  and  $\geq$  should alter.

### Input

The first line contains a single integer **T** denoting the number of test cases. The first line of each test case contains an integer **N**, that is the size of the array **A**. The second line of each test case contains the elements of array **A**

### Output

For each test case, output a single line containing **N** space separated integers, which are the elements of **A** arranged in the required order. If there are more than one valid arrangements, you can output any of them.

### Constraints

- $1 \leq N \leq 100000$
- Sum of **N** in one test file  $\leq 600000$
- $1 \leq A[i] \leq 10^9$

### Example

Input :

```
2
2
2
3 2
3
10 5 2
```

Output :

```
2 3
2 10 5
```

### Explanation

**Example case 1.**

$A[0] \leq A[1]$  is satisfied,  $2 \leq 3$ .

**Example case 2.**

$A[0] \leq A[1]$  is satisfied,  $2 \leq 10$ .

$A[1] \geq A[2]$  is satisfied,  $10 \geq 5$ .

**Note:** 5 10 2 is also valid answer.

All submissions for this problem are available.

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Editorial:	<a href="https://discuss.codechef.com/problems/ANUUND">https://discuss.codechef.com/problems/ANUUND</a>
Tags:	<a href="#">ad-hoc</a> , <a href="#">anudeep2011</a> , <a href="#">cook46</a> , <a href="#">easy</a> , <a href="#">sorting</a>
Date Added:	13-04-2014
Time Limit:	3 secs
Source Limit:	50000 Bytes
Languages:	CPP14, C, JAVA, PYTH 3.6, PYTH, CS2, ADA, PYP3, TEXT, PAS fpc, RUBY, PHP, NODEJS, GO, TCL, HASK, PERL, SCALA, BASH, JS, PAS gpc, BF, LISP sbcl, CLOJ, LUA, D, CAML, ASM, FORT, FS, LISP clisp, SCM guile, PERL6, CLPS, WSPC, ERL, ICK, NICE, PRLG, ICON, PIKE, SCM qobi, ST, NEM

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