Middle value

You are tasked with creating a program that takes a sequence of 32-bit signed integers as input. After every odd-indexed value is read, your program should output the middle value of all the elements received so far.

Input

The first line of the input consists of a single integer M ($1 \leq M \leq 1000$), which represents the number of data sets to follow. Each data set starts with a line containing the data set number, followed by a space. Then, an odd decimal integer N ($1 \leq N \leq 9999$) is provided, indicating the total number of signed integers to be processed. The subsequent line(s) in the dataset contain the values, with 10 values per line separated by a single space. The last line of the dataset may contain fewer than 10 values.

Output

For each data set, the output should start with the data set number, followed by a space and the number of medians that are outputted (equal to half the number of input values plus one). The medians should be displayed on the following lines, with 10 medians per line separated by a single space. The last line of the output may contain fewer than 10 elements, but it must contain at least one element. The output should not contain any blank lines.

Sample Input

```
3
1 9
9 8 7 6 5 4 3 2 1
2 3
50 -50 50
3 21
13 21 3 40 -2 4 -13 -10 6 -9
5 15 -80 17 -111 50 39 -50 -97 90
-12
```

Sample Output

```
1 5
9 8 7 6 5
2 2
50 50
3 11
13 8 5 0 1 2 -10 -22 -16 -24
-23
```