TC2017 Análisis y Diseño de Algoritmos
Proy01A – Median (Tutoring 24/7)
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Forma de Trabajo: *Individual*.

Given a set of 2n integers data were separated into two arrays of size n, and every array was ordered ascending, and knowing that there are no repeated 2n values. They want to find the median of the set of 2n data. The median of a data set, that data is having 50% of those under him data and 50% of older data to it.
It uses the strategy of divide and conquer, to design an algorithm that computes the median of 2n data in the two arrays (1 <= **n** <= 100).
The algorithm you get must have a base 2 logarithmic or better order, O(**$\log_2$ n).**

Input

First comes **t** the number of cases, for each case comes the size of the arrays (**n**), then comes n integers of the first array and **n** integer of the second array. The data of the arrays are positive integers no greater than **10^4**.

Output

Each case will come a floating number with two decimal representing the median of all **2n** data with the presentation format of the sample input.

Sample Input

```
2
5
1
4
7
8
10
2
9
11
14
15
3
3
4
5
1
2
6
```

Sample Output

```
Median case 1: 8.50
Median case 2: 3.50
```