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## Median Difference

### TASK

Write a program that reads a set of  $N$  ( $1 \leq N \leq 20,000$ ) distinct integers (range:  $1 \dots 250,000$ ) and selects a set of three different values from that set such that the absolute value of the difference between the median and the mean is maximized.

Recall that the median of three numbers is the middle number when the numbers are sorted. The mean of three numbers is the average: the sum divided by 3. For the set  $\{1, 4, 10\}$ , the median is 4 and the mean is  $5.0$  ( $(1+4+10)/3$ ).

**Input:** `median.in`

The first line of the input file contains a single integer,  $N$ .

The next  $N$  lines of the input file each contain a single integer in the input set.

*Example input:*

5
100
234
430
120
489

**Output:** `median.out`

The output file should contain the three unique integers that maximize the absolute value of the difference between their median and their mean. The integers should be listed in any order on three lines, one per line.

If there are multiple sets of three integers that have the maximum absolute difference between their median and their mean, list any one of those sets.

*Example output:*

489
100
120

### CONSTRAINTS

Running time	1 second of CPU
Memory	64 MB



**SCORING**

You will receive full points on each test case for which your program produces a correct output file. No partial credit will be given on any test case.