
Control C301B

P19564_en

We define the *valencia* of a natural number n as the absolute value of the subtraction between the sum of the digits that are in odd positions and the sum of the digits that are in even positions (the positions are counted starting in one and from the right to the left). n is *balanced* if its valencia is 0.

For instance 15741 is a balanced number, because the sum of the digits that are in odd positions and the sum of the digits that are in even positions is 9, therefore it has valencia 0. However, 31 is not a balanced number, because its valencia is 2.

Your task is to write a program that, given a non empty sequence of natural numbers, prints the first balanced number of the sequence. If there is not any balanced number, print the greatest valencia of the numbers in the sequence.

Input

The input is a non empty sequence of natural numbers.

Output

Your program must print a line with the first balanced number of the sequence. If there is not any, print the greatest valencia of the sequence. Follow the format of the instances.

Observation

Your program must implement and use the function

```
int valencia (int n);
```

that, given a natural number $|n|$, returns its valencia.

Sample input 1

```
20394 15741 42 111 25
```

Sample input 2

```
1 2 98 89
```

Sample input 3

```
11
```

Sample input 4

```
777 123456789 31 0
```

Sample output 1

```
The first balanced number is 20394.
```

Sample output 2

```
The greatest valencia is 2.
```

Sample output 3

```
The first balanced number is 11.
```

Sample output 4

```
The first balanced number is 0.
```

Problem information

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