

A: Cookie Balancing Act

Cookies are being served! Sibling rivalry ensues! Each of the twins wants the maximum quantity of cookie. The problem is that the cookies are of somewhat different sizes, not surprising since they are home baked. So you weigh each of the cookies and devise a program to help you allocate them to each twin such that the difference in total weight of cookies each twin gets is minimized. Coding up the program is your task today!

Input

Input may consist of multiple cases. Each case is described on a single line that begins with the number of cookies (no more than 100) followed by the weight of each (in integer grams, no more than 1000 grams). Following the last case is a line containing just the number 0. Arbitrary white space may delimit the input.

Output

For each case, display the case number followed by minimum total weight difference, formatted as in the sample. Use single spaces as delimiters.

Sample Input

```
-----  
5  6  8  5  2  6  
2  25 62  
0  
-----
```

Sample Output

```
-----  
Case 1: 1  
Case 2: 37  
-----
```