

## Problem H. Aidana and Pita

Input file: *standard input*  
Output file: *standard output*  
Time limit: 2 seconds  
Memory limit: 1024 mebibytes

Aidana loves pita. Yesterday she brought home  $n$  pitas. Each pita has a *tastiness* value, which is an integer. Today three friends of Aidana will come to dinner. She will distribute all  $n$  pitas among them; each pita will go to exactly one friend. The *happiness* of a friend is the sum of tastiness values of all pitas he or she received. Aidana wants to be fair. So help her find a distribution of pitas that minimizes the difference between her friends' maximum and minimum happiness.

### Input

The first line contains one integer  $n$ , the number of pitas ( $3 \leq n \leq 25$ ).

The second line contains  $n$  integers,  $a_1, a_2, \dots, a_n$ , which are tastiness values for pitas ( $1 \leq a_i \leq 10^7$ ).

### Output

Print  $n$  integers: for each pita, print the friend's index to which this pita should go (friends' indices are 1, 2, and 3).

If there are several possible answers which minimize the difference between maximum and minimum happiness, print any one of them.

### Examples

<i>standard input</i>	<i>standard output</i>
5 2 3 1 4 2	3 2 2 1 3
6 3 2 5 3 4 2	2 3 1 2 3 1