2 Partitioning Souvenirs

You and two of your friends have just returned back home after visiting various countries. Now you would like to evenly split all the souvenirs that all three of you bought.

Problem Description

Input Format. The first line contains an integer n. The second line contains integers $v_1, v_2, \ldots, v_n$ separated by spaces.

Constraints. $1 \leq n \leq 20$, $1 \leq v_i \leq 30$ for all i.

Output Format. Output 1, if it possible to partition $v_1, v_2, \ldots, v_n$ into three subsets with equal sums, and 0 otherwise.

Sample 1.

Input:

```
4
3 3 3 3
```

Output:

```
0
```

Sample 2.

Input:

```
1
40
```

Output:

```
0
```

Sample 3.

Input:

```
11
17 59 34 57 17 23 67 1 18 2 59
```

Output:

```
1
```

$34 + 67 + 17 = 23 + 59 + 1 + 17 + 18 = 59 + 2 + 57$.

Sample 4.

Input:

```
13
1 2 3 4 5 5 7 7 8 10 12 19 25
```

Output:

```
1
```

$1 + 3 + 7 + 25 = 2 + 4 + 5 + 7 + 8 + 10 = 5 + 12 + 19$.