

Q6 (15 Marks) You have a number of Christmas gifts with values v_1, \dots, v_n . These gifts have to be split before being delivered to two different orphanages. You want to make sure that the gifts are split in such a way that the difference in total value between the two parts is minimal. Write a program that will find the minimum difference of total values from splitting the gifts.

INPUT

A sequence of n integers, $1 \leq n \leq 20$, which are the values of the gifts. Each value is at most 100000 Baht.

OUTPUT

The minimal possible difference between total value of the two parts after split.

EXAMPLE

INPUT	OUTPUT
5 5 8 13 27 14	3