# Problem Description

Find the most optimal way to multiply n matrixes, so that the least number of arithmetic operations are done.

# Input

The input will be the number of matrixes n (2 <= n <= 10) on the first line. The next line will contain the dimensions of the matrixes.

# Output

Print the matrixes with parenthesis to indicate in which order we should multiply them to use the least number of arithmetic operations.

# Sample Input

4

20 2 30 12 8

# Sample Output

(A ((B C) D))