Problem H
Higher Arithmetic
Time limit: 4 seconds



Captchas are getting more and more elaborate. It started with doing simple calculations like $7 + 2$, and now, it has evolved into having to distinguish chihuahuas from double chocolate chip muffins.

To combat the rise of smarter bots, the Internet Captcha Production Company (ICPC) has outdone itself this time: given a distorted image containing many integers, find the maximum value that can be expressed using each of the given integers exactly once, using addition, multiplication, and arbitrary parentheses.

After unsuccessfully trying to solve such a captcha for an hour straight, Katrijn is terribly frustrated. She decides to write a program that outputs a valid arithmetic expression with maximal value.

Input

The input consists of:

- One line with an integer n ($1 \leq n \leq 10^5$), the number of integers in the captcha.
- One line with n integers a ($1 \leq a \leq 10^6$), the integers in the captcha.

Output

Output a valid arithmetic expression with maximal value, where each integer from the input list is used exactly once. The usual order of operations applies. The output expression may use at most 10^6 characters and must not contain any spaces. Such an expression exists for any possible input.

If there are multiple valid solutions, you may output any one of them.

Sample Input 1	Sample Output 1
4 1 2 3 4	3*((1+2)*4)

Sample Input 2	Sample Output 2
3 13 37 1	(1+13)*37

Sample Input 3	Sample Output 3
4 1 1 1 1	((1+1)*(1+1))

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