

A multiplied B equal to N

Multiplication (often denoted by the cross symbol "×", or by the absence of symbol) is the third basic mathematical operation of arithmetic, the others being addition, subtraction and division (the division is the fourth one, because it requires multiplication to be defined).

The multiplication of two whole numbers is equivalent to the addition of one of them with itself as many times as the value of the other one; for example, 3 multiplied by 4 (often said as "3 times 4") can be calculated by adding 3 copies of 4 together:

$3 \times 4 = 4 + 4 + 4 = 12$ Here 3 and 4 are the "factors" and 12 is the "product".

One of the main properties of multiplication is that the result does not depend on the place of the factor that is repeatedly added to itself (commutative property). 3 multiplied by 4 can also be calculated by adding 4 copies of 3 together:

$3 \times 4 = 3 + 3 + 3 + 3 = 12$ The multiplication of integers (including negative numbers), rational numbers (fractions) and real numbers is defined by a systematic generalization of this basic definition.

Multiplication can also be visualized as counting objects arranged in a rectangle (for whole numbers) or as finding the area of a rectangle whose sides have given lengths. The area of a rectangle does not depend on which side is measured first, which illustrates the commutative property.

Your task is quite tough. You are given an Number N. You need to find two number A and B that multiples to N. Any one of A or B can not be 1.

Input

Each Case has a Integer number N. N can be in the range of $-10^{16} \leq N \leq 10^{16}$. It is guaranteed that N will be such a value that can be expressed as two Integer number A and B.

Output

You need to print two number A and B separated by a space. If there is multiple answer you can print any of them. A and B can be any value except 1. If it is not possible to find such A and B print -1.

Sample test(s)

input

10

output

2 5

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