

Write a program to evaluate if the given number is a result of factorial or not.

Example: the number 120, is a result of factorial because $120 = 5!$.

If the given number is a result of factorial,the program must print "This number is a result of factorial."

If the given number is not a result of factorial, the program must print "This number is not a result of factorial."

Hint : Input integer N that $1 \leq N \leq 2432902008176640000$, therefore datatype of long should be used.

Example 1:

Input

120

Output

This number is a result of factorial.

Example 2:

Input

30

Output

This number is not a result of factorial.

For example:

Input	Result
120	This number is a result of factorial.
30	This number is not a result of factorial.