MEC Independence Day Programming Contest 2022 Mock

https://toph.co/c/mnkuvfc


Toph

Schedule

The contest will run for **1h30m0s**.

The standings will be frozen for the last **1h0m0s** of the contest.

Rules

You can use C++11 GCC 7.4, C++14 GCC 8.3, C++17 GCC 9.2, C11 GCC 9.2, Common Lisp SBCL 2.0, and Java 1.8 in this contest.

Be fair, be honest. Plagiarism will result in disqualification. Judges' decisions will be final.

Notes

There are 3 challenges in this contest.

Please make sure this booklet contains all of the pages.

If you find any discrepencies between the printed copy and the problem statements in Toph Arena, please rely on the later.

Disclaimer

The contents of this contest, as prepared by its organizer, may not have been reviewed by Toph and does not necessarily represent Toph's views.

A. Leap Years

In the Gregorian calendar, certain years have 366 days instead of 365. In such years, the month of February is extended to have 29 days (instead of 28 days). These years are known as leap years.

A leap year occurs when the year is a multiple of 4 but not a multiple of 400.

Given a year, determine if the year is a leap year.

Input

The input will contain a one integer Y ($0 < Y < 9999$).

Output

Print `Yes` if the year is a leap year, otherwise `No`.

Samples

Input	Output
2004	Yes

This problem uses an incorrect definition of leap years. Another problem exists in our archive that uses the correct definition.

B. Add Them Up

Read two integer variables, calculate their sum, and print it.

Input

The input will contain two integers A and B ($-20000000 < A, B < 20000000$).

Output

Print the sum of the two integers.

Samples

Input	Output
4 5	9

C. N-th Prime

In this problem, you will have to print the n-th prime number. The first few prime numbers are given below:

2, 3, 5, 7, 11, 13, 17, 19, 23, 29, ...

2 is the 1st prime, 3 is the 2nd prime, 5 is the 3rd prime, ...

Input

The input will contain a single integer n ($0 < n < 500000$).

Output

Print the n-th prime number.

Samples

Input	Output
1	2

Input	Output
2	3