Practice Arena

Practice problems aimed to improve your coding skills.

- PRACTICE-02_SCAN-PRINT
- PRACTICE-03_TYPES
- LAB-PRAC-02_SCAN-PRINT
- LAB-PRAC-01
- PRACTICE-04_COND
- BONUS-PRAC-02
- LAB-PRAC-03_TYPES
- PRACTICE-05_COND-LOOPS
- LAB-PRAC-04_COND
- LAB-PRAC-05_CONDLOOPS
  - Forgetful Mr C
  - Rich Mr C
  - Perfect Numbers
  - Mr C builds a Calculator
  - Love for Primes
  - Tryst with Taylor
  - Mr C is very busy
  - Fabulous Fibonacci
  - Digit Debacle
  - May the fourth be with you
  - Phone a friend
  - The legend of Chess
- PRACTICE-07_LOOPS-ARR
- LAB-PRAC-06_LOOPS
- LAB-PRAC-07_LOOPS-ARR
- LABEXAM-PRAC-01_MIDSEM
- PRACTICE-09_PTR-MAT
- LAB-PRAC-08_ARR-STR
- PRACTICE-10_MAT-FUN
- LAB-PRAC-09_PTR-MAT
- LAB-PRAC-10_MAT-FUN
- PRACTICE-11_FUN-PTR
- LAB-PRAC-11_FUN-PTR
- LAB-PRAC-12_FUN-STRUC
- LABEXAM-PRAC-02_ENDSEM
- LAB-PRAC-13_STRUC-NUM
- LAB-PRAC-14_SORT-MISC

The legend of Chess

LAB-PRAC-05_CONDLOOPS

The legend of Chess [20 marks]

Problem Statement
There is a famous legend related to the origin of the game of chess. There was an emperor who was very impressed by this game and wished to reward the inventor. The conversation between them is given below. In this world however, the chessboard only has 7 squares on each side, for a total of 49 squares on the board.

Emperor: Name your reward, O wise one!
Inventor: O generous emperor, my wish is simple. I only wish for this -- give me one grain of rice for the first square of the chessboard, two grains for the next square, four for the next, eight for the next and so on for all 49 squares, with each square having double the number of grains as the square before.

We will provide you with the number of rice grains present with the emperor as a **long integer**

1. If the king is able to fulfill his promise with those many rice grains, print **YES** in the first line and then in the **next line**, print how many grains of rice he will be left with after fulfilling his promise.
2. If the king is not able to fulfill his promise with those many grains of rice, print **NO** in the first line and then in the **next line**, print the last square he was able to **completely fill**. This will be a number between 0 and 49.

Caution

1. The number of rice grains can be very large. Use a long type variable to do calculations.
2. Be careful about extra/missing lines and extra/missing spaces.

EXAMPLE:
INPUT
2

OUTPUT:
NO
1

Grading Scheme:
Total marks: **[20 Points]**

There will be partial grading in this question. There are two lines in your output. Printing each line correctly, in the correct order, carries 50% weightage. Each visible test case is worth 2 points and each hidden test case is worth 4 points. There are 2 visible and 4 hidden test cases.

Please remember, however, that when you press Submit/Evaluate, you will get a green bar only if all parts of your answer are correct. Thus, if your answer is only partly correct, Prutor will say that you have not passed that test case completely, but when we do autograding afterwards, you will get partial marks.

Start Solving! (/editor/practice/6088)