BIUPC 2.0 2024 Mock(Junior)

A. Behind The Story

1 second, 256 megabytes

Author: Radoan Islam Nabil (CSE BUBT, Intake-46)

The Computer Science and Engineering (CSE) department at BUBT regularly hosts the "BUBT Intra University Programming Contest" (BIUPC) each semester. However, due to the delay caused by the ICPC Dhaka regional event, the contest hasn't been held since February 2023. But good news! The CSE department is finally hosting BIUPC again this semester, thanks to popular demand.

The event will be organized by the dedicated faculty of BUBT, along with the enthusiastic support of the BUBT IT Club and the BUBT CP Community. The IT Club will handle everything from participant registrations to the grand prize-giving ceremony, infusing each aspect with their distinctive flair and professionalism. On the other hand, the CP Community will curate the problem set, collaborating with current seniors and alumni to ensure a challenging and engaging experience for all participants.

And your role in this event? You're the essential ingredient that completes the competition: a participant. Your task is to immerse yourself in the contest, tackle the problems with skill and determination, and contribute to the vibrant atmosphere of camaraderie and competition.

In this problem, you're asked to find the number of clubs working to make this event happen.

Input
This problem has no input.

Output
Output an integer that denotes the number of clubs working to make this event happen.

B. Palindrome Shalimdrome

1 second, 256 megabytes

Author: **Maruf Khan**

Lecturer, Dept. of CSE, BUBT

Ashraful sir gives a string to Mainuddin to identify whether it is a palindrome or not. However, he tells Mainuddin to delete every occurrence of some letters before checking if the string is a palindrome or not.

Here are the letters Ashraful sir told Mainuddin to remove- a, e, i, o and v.

· A palindrome is a word, phrase, number, or other sequence of characters that reads the same backward or forward. For example, "ABBA" is a palindrome, but "AABBAAAA" is not.

· Consider the empty string as a palindrome.

NB : The last letter is v not u

Input
The only line of input contains a string $S(1 \leq |S| \leq 10^5)$—the string Ashraful sir gave to Mainuddin. The string contains only lowercase Latin letters.

Output
Print "**YES**"(without the quotes), if the string is a palindrome after removing the specified characters and "**NO**"(without the quotes) if it's not.

input
pknkknkp

output
YES

input
urcvpuuy
output
NO

C. Heat Waves

1 second, 256 megabytes

Author: **Md Ashraful Islam**

Assistant Professor, Dept. of CSE, BUBT

Mr. Rafiq recently purchased an air conditioner for extremely hot weather conditions. Following its installation, he discovered himself frequently adjusting the temperature, occasionally raising it, and other times lowering it. Now, he seeks to determine the average temperature he maintained throughout the day. Your task is to write a program that takes the temperature inputs and calculates the average temperature as the output.

Input

The first line of input contains an integer $n(1 \leq n \leq 100)-$the number of times, Mr. Rafiq changed the temperature. The second line of input contains n integers where the $i-$th integer denotes the temperature after the $i-$th time Mr. Rafiq changed it. Initially, the air conditioner was switched off. Mr. Rafiq does not change the temperature to below 1 degrees or above 50 degrees.

Output

Print one real number with two points after the decimal point denoting the average temperature that Mr. Rafiaq maintained during the day.

input
6 37 44 22 41 44 4
output
32.00

input
7 34 21 44 11 15 1 22
output
21.14

D. Finding the Magic Number

1 second, 256 megabytes

Author: Md All Moon Tasir

Lecturer, Shanto-Mariam University of Creative Technology.

Dept. of CSE, BUBT

One Day Sazzad sir and his students went on a Study tour. On the study tour, sir gave them a task to find a magic number.

A magic number is a number that consists of only the digits 3 and 9. For example, 3, 39, and 93 are magic numbers but 121, 395, and 111 are not.

Input

The only line of the input contains a number N $(1 \leq |N| \leq 10^6)$. Where |x| denotes the length of x.

Output

If the number is a magic number then print "Yes" otherwise print "No" without quotation.

input
3
output
Yes

input
5
output
No

E. ICPC মানেই BUBT?

1 second, 256 megabytes

Bangladesh University of Business and Technology (BUBT) has played a leading role in promoting the ICPC in Bangladesh. BUBT has hosted the ICPC Dhaka regional contest multiple times in 2014, and 2021 due to COVID-19, the program was held in 2022 and last year BUBT hosted the ICPC-2023. BUBT teams have consistently performed well. From the preliminary part, 2461 teams around the country took part out of which 224 teams had been selected for the on-site competition held at BUBT on the 3rd and 4th of November 2023.

Input
This problem has no input.

Output
Print the number of ICPC Dhaka Regional contests BUBT has hosted in total.

F. Senior Junior can't stay together

1 second, 256 megabytes

After a long time, the CSE department is hosting the BUBT Intra University Programming contest (BIUPC). The contest is divided into two divisions, senior and junior. This year 48, 49, and 50 intakes are participating in the Senior divisions whereas 51, 52, and 53 intakes are participating in the junior division. Students from any other intake cannot participate in this contest.

A student came to you and told you his intake number. Now you have to determine which division the student belongs to.

Input
First and the only line of the input contains an integer $n(1 <= n <= 100)$.

Output
If the student belongs to senior division print "Probin" without quotation.

If the student belongs to junior division print "Nobin" without quotation.

If the student cannot participate in the contest print "Bohiragoto" without quotation.

input
48
output
Probin

input
53
output
Nobin

input
100
output
Bohiragoto

G. Square Square Everywhere

1 second, 256 megabytes

You have been given n integers. Your task is to count the number of integers that are **not** perfect square.

A number is a perfect square if there exists an integer i such that $i * i = x$.

Input

The first line contains an integer $T(1 <= T <= 100)$ denoting the number of test cases. Each of the test cases contains an integer $n(1 <= n <= 1000)$. The next line contains n integers separated by spaces. Each of the integers x are $(1 <= x <= 10^5)$.

Output

For each test case output the number of integers which are **not** a perfect square.

input
1 10 1 2 3 4 5 6 7 8 9 10
output
7

input
3 2 9 3 5 5 3 5 1 2 3 9 6 3
output
1 4 2