

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

IIUM TEAM SELECTION CONTEST

October 16, 2011

This problem statement contains 6 problems in 6 pages.

Problem A. Rabbit

Input : Standard Input

Output : Standard Output

The rabbits in the Wonderland had an amusing issue. Every time they woke up in the morning, their colors get changed. If it was blue in the previous day, it will become pink. And if it was pink, the next day the color will become blue. No one knew why it happened, but the rabbits felt very embarrassed to be pink. Life is not that easy in Wonderland.

Today one rabbit father woke up, and found all the members of his family are pink. He quickly remembered the rabbit festival is n days away (n is a positive integer less than 365). Rabbits are not good at computation. Now he really wants to know what will be his color after n days.

Can you help the poor rabbit to know what his color would be after n days?

Input

You'll be given a number n in the input. You have to read till end of file.

Output

You have to output "Pink" if the color is Pink after n days or "Blue" otherwise. (Without quotes)

Sample input and output

Input	Output
1	Blue
2	Pink
3	Blue
4	Pink

Problem B. Birthday

Input : Standard Input

Output : Standard Output

Mike is arranging a birthday party next Saturday. He wants to invite everyone from his mathematics class and programming class. There are m students in his mathematics class and p students in his programming class (we are not counting Mike). Mike also knows c students are taking both of the classes (without Mike).

Mike is very curious about how many guests he'll have in his party. Since he is not good in programming or math, he wants your help.

Input

The first line will contain a number t , that's the number of test cases. After that t lines will follow each containing three integers m , p and c .

Output

Print a single line - total number of guests Mike will have in the party.

Sample input and output

Input	Output
4	10
5 5 0	5
5 5 5	7
5 5 3	2
1 2 1	

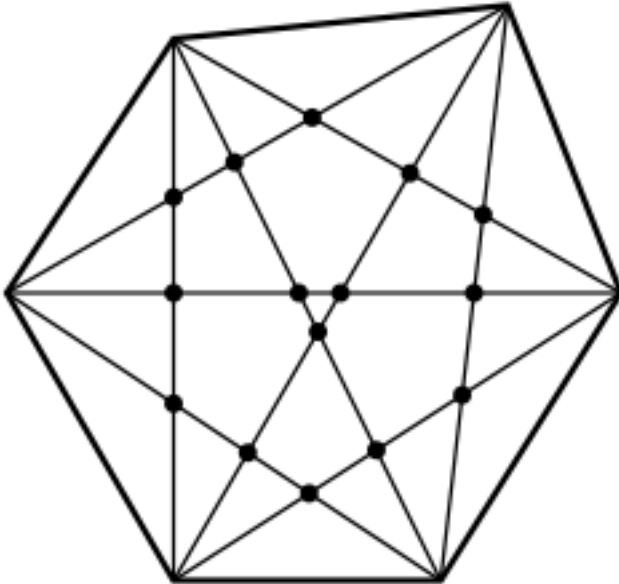
Problem C. Intersection

Input : Standard Input

Output : Standard Output

Consider a convex polygon with N vertices, with the additional property that no three diagonals intersect in a single point. Find the number of intersections between pairs of diagonals in such a polygon.

The figure below shows one such polygon with 6 vertices.



Note: a polygon is convex if all of its interior angles are less than 180 degrees.

Input

Each line of input will contain a single integer N , $3 \leq N \leq 100$. You have to read till end of file.

Output

Output the number of intersections on a single line.

Sample input and output

Input	Output
3	0
4	1
6	15

Problem D. Printer

Input : Standard Input

Output : Standard Output

Your printer has been infected by a virus and it is printing gibberish. After staring at several printed pages for a while, you realize that it is printing every word in reverse order. For example if you wanted to write "Hello", it will print "olleH".

Your task is to unscramble a word from its printed form back into its original order.

Input

The first line will contain T , number of test cases. After that T lines will follow, each containing a single word. You can assume none of the words will have more than 20 characters.

Output

Print the original form of the word.

Sample input and output

Input	Output
4	IIUM
MUII	Internal
lanretnI	Programming
gnimmargorP	Contest
tsetnoC	

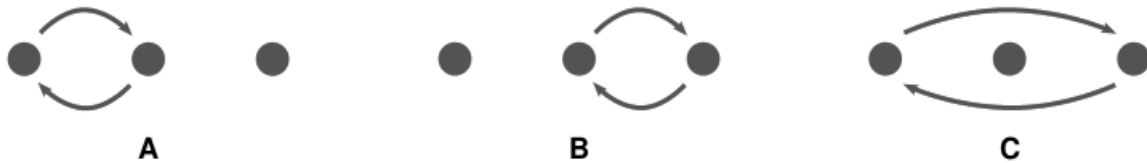
Problem E. Trik

Input : Standard Input

Output : Standard Output

Jealous of Mirko's position as head of the village, Borko stormed into his tent and tried to demonstrate Mirko's incompetence for leadership with a trick.

Borko puts three opaque cups onto the table next to each other (opening facing down) and a small ball under the leftmost cup. He then swaps two cups in one of three possible ways a number of times. Mirko has to tell which cup the ball ends up under.



Wise Mirko grins with his arms crossed while Borko struggles to move the cups faster and faster. What Borko does not know is that programmers in the back are recording all his moves and will use a simple program to determine where the ball is. Write that program.

Input

The first and only line contains a string of at most 50 characters, Borko's moves. Each of the characters is 'A', 'B' or 'C' (without quote marks).

Output

Output the index of the cup under which the ball is: 1 if it is under the left cup, 2 if it is under the middle cup or 3 if it is under the right cup.

Sample input and output

Input	Output
AB	3
CBABCACC	1

Problem F. Cleaning

Input : Standard Input

Output : Standard Output

Farmer John is assigning some of his N ($1 \leq N \leq 25000$) cows to do some cleaning chores around the barn. He always wants to have one cow working on cleaning things up and has divided the day into T shifts ($1 \leq T \leq 1000000$), the first being shift 1 and the last being shift T .

Each cow is only available at some interval of times during the day for work on cleaning. Any cow that is selected for cleaning duty will work for the entirety of her interval.

Your job is to help Farmer John assign some cows to shifts so that (i) every shift has at least one cow assigned to it, and (ii) as few cows as possible are involved in cleaning. If it is not possible to assign a cow to each shift, print -1.

Input

* Line 1: Two space-separated integers: N and T

* Lines 2.. N +1: Each line contains the start and end times of the interval during which a cow can work. A cow starts work at the start time and finishes after the end time.

Output

* Line 1: The minimum number of cows Farmer John needs to hire or -1 if it is not possible to assign a cow to each shift.

Sample input and output

Input	Output
3 10 1 7 3 6 6 10	2