

DIPTI Hunt The Coder Programming Contest 2024

<https://toph.co/c/dipti-hunt-the-coder>



Schedule

The contest will run for **3h0m0s**.

Authors

The authors of this contest are computer4, cse2.882, lecturer2, and lecturer5.

Rules

This contest is formatted as per the official rules of ICPC Regional Programming Contests.

You can use Bash 5.0, Brainf*ck, C# Mono 6.0, C++11 GCC 7.4, C++14 GCC 8.3, C++17 GCC 9.2, C++20 Clang 16.0, C++20 GCC 12.1, C11 GCC 12.1, C11 GCC 9.2, Common Lisp SBCL 2.0, D8 11.8, Erlang 22.3, Free Pascal 3.0, Go 1.18, Grep 3.7, Haskell 8.6, Java 1.8, Kotlin 1.1, Lua 5.4, Node.js 10.16, Perl 5.30, PHP 7.2, PyPy 7.1 (2.7), PyPy 7.1 (3.6), Python 2.7, Python 3.11, Python 3.7, Ruby 2.7, Ruby 3.2, Rust 1.57, Swift 5.3, and Whitespace in this contest.

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

Notes

There are 7 challenges in this contest.

Please make sure this booklet contains all of the pages.

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

A. Write your loving contest name

You love to solve code. Today you are participating in this programming contest. Someone asks you, "What is your loving programming contest name". Now, you need to print your thoughts.

Input

Nothing to be input.

Output

Print your loving contest name.

Samples

<u>Input</u>	<u>Output</u>
	Hunt The Coder .

B. BPL Fanatic

The Bangladesh Premier League (BPL) is a major cricket tournament currently happening in 2024. You are a big fan and want to analyze the performance of your favorite team so far in the season.

Input

A single line of string `matches` representing the match results of your favorite BPL team. Each character in the string represents the outcome of a single match:

- 'W' - Win
- 'L' - Loss
- 'T' - Tie

Output

Print three space-separated integers:

- The total number of wins for your team.
- The total number of losses for your team.
- The total number of ties for your team.

Samples

<u>Input</u>	<u>Output</u>
"WWLTTLW"	3 2 2

<u>Input</u>	<u>Output</u>
"WWL"	2 1 0

<u>Input</u>	<u>Output</u>
" "	0 0 0

C. BPL Free Candy Campaign

Kabila visits the **BPL Final Match** and finds that BPL has started a campaign in the Final Match to excite the match more. The campaign is all about providing free candies. But you must go through the requirements of the BPL authority. The campaign stall is filled with colourful jars of candies. Each jar is labelled with the count of candies it contains. The campaign organizers have set up a challenge: you can choose any two jars, and if the number of candies in the two selected jars is even, you get to keep all the candies in both jars! However, if the sum is odd, you only get half of the candies in each jar.

Now, Write a program to maximize the number of candies you can collect by selecting two jars strategically.

Input

- The first line contains an integer n ($2 \leq n \leq 100$), the number of jars in the campaign stall.
- The second line contains n integers separated by spaces, representing the count of candies in each jar.

Output

- Print a single integer representing the maximum number of candies you can collect.

Samples

<u>Input</u>	<u>Output</u>
4 2 5 8 3	10

<u>Input</u>	<u>Output</u>
3 2 4 6	10

D. Bangladesh Premier League (BPL) 2024

The Bangladesh Premier League (BPL) 2024 was in full swing. The day had finally arrived for the highly anticipated final cricket match between the Comilla Victorians and the Fortune Barisal in the Sher-e Bangla National Stadium, Dhaka. The stadium was packed with fans from both teams, eagerly waiting to see their favorite cricketers in action.

The Fortune Barisal started off well by scoring some quick runs in the first few overs and setting a challenging target.

However, during the midway of the match, Tamim Iqbal, the captain of Fortune Barisal realized that they were struggling to keep track of the score. They were unable to calculate the total runs scored in each over, which was impacting their strategy in the match.

At that point, Tamim Iqbal remembered that a young programmer was in the audience and quickly approached you for help. You listened to the captain's problem and offered to write a program that would help calculate the total runs scored in each over. You asked for the number of overs and the runs scored in each ball of each over.

The captain handed you a piece of paper with some score written on it.

The problem requires you to calculate the number of runs scored in each over of the cricket match but with a few conditions. Each over can have up to six "balls", and each "ball" can score between 0 to 6 runs. Once you had the total runs scored in each over, you presented it to Tamim Iqbal. He was impressed with your work and quickly put the program to use. From that moment on, the Fortune Barisal started to score runs more efficiently and were able to track their score accurately.

As the match concluded, you decided to add one final touch to your program. After calculating the total runs scored in each over, you wanted to display the overall total run of the entire match. With a few lines of code, you included a final statement: "The Total Run is: x", where x represents the sum of all the runs scored in every over. This addition would provide team Barisal and the spectators with the final tally of the match.

You shared the updated program with Tamim, who was thrilled with the enhancement. He realized that your program not only helped track the score of each over but also provided the overall total run, making it an invaluable tool for future matches.

Now, you can continue writing the code to incorporate the display of the total run. Good luck!

Input

- The first line contains an integer N ($1 \leq N \leq 50$) representing the number of overs played in the cricket match. The next N lines represent the runs scored in each ball of the corresponding over. Each line contains exactly 6 integers separated by a space. The integers represent the runs scored in each ball of the over and will be between 0 and 6 (inclusive)

Output

- The output should be $N+1$ lines. The first N lines should contain a single integer representing the total runs scored in each over. The last line should contain a single integer representing the overall total run of the entire match.

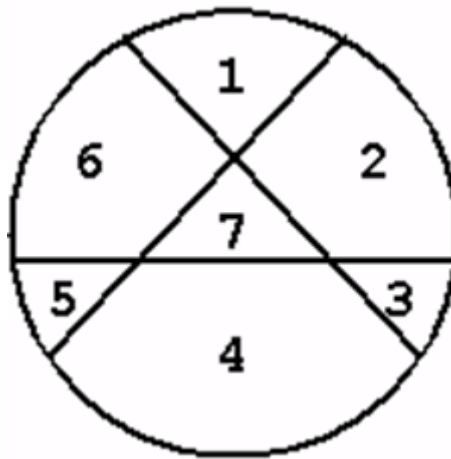
Samples

<u>Input</u>	<u>Output</u>
3 1 2 0 4 6 1 3 1 2 0 2 4 0 0 6 1 1 2	14 12 10 The Total Run is: 36
<u>Input</u>	<u>Output</u>
4 2 3 4 5 0 1 1 0 2 3 4 5 6 1 1 1 1 1 2 2 2 2 2 2	15 15 11 12 The Total Run is: 53

E. Winning Celebration Cake Cutting

When someone calls Eshan lazy, he claims that it is his intelligence that helps him to be so. If his intelligence allows him to do something at less physical effort, why should he exert more? He also claims that he always uses his brain and tries to do some work at less effort; this is not his laziness, rather this is his intellectual smartness.

Once Eshan was asked to cut a birthday cake into seven pieces to distribute it among his friends. (Size of the pieces may not be the same. In fact, his piece will be larger than the others.) He thought a bit and came to the conclusion that he can cut it into seven pieces by only three straight cuts through the cake with a knife. Accordingly, he cut the cake in the following way:



One of his friends, who never believed in Eshan's smartness, was startled at this intelligence. He thought, if Eshan can do it, why can't my computer? So he tried to do a similar job with his computer. He wrote a program that took the number of straight cuts one makes through the cake, and output a number representing the maximum number of cake pieces it will produce.

Your job here is to write a similar program. It is ensured that Eshan's friend won't criticize you for doing the same job he did.

Input

- The input file will contain a single integer N ($0 \leq N \leq 210000000$) in each line representing the number of straight line cuts one makes through the cake.

Output

- Output the maximum number of cake pieces the given number of cuts can produce. Each line should contain only one output integer without any leading or trailing space. A negative number shows **Undetermined**.

Samples

<u>Input</u>	<u>Output</u>
19	191

<u>Input</u>	<u>Output</u>
16	137

F. Supermarket Bill Calculation

Imagine you are the owner of a small supermarket. You want to develop a simple program to calculate the total bill amount for your customers. Your program should allow the cashier to input the prices of items purchased by a customer and then display the total bill amount.

Your program should prompt the cashier to input the prices of each item purchased by the customer. These prices will be stored in an array. Once all the prices are entered, your program will calculate the sum of all the prices in the array to determine the total bill amount.

The cashier will input the prices of items one by one, similar to how the elements of an array are inputted. Then, using a for loop, your program will iterate through the array, adding each price to a variable that keeps track of the total bill amount. Finally, the program will display the total bill amount to the cashier.

Input

- The number of items purchased (N), where $1 \leq N \leq 100$.
- Prices of each item, entered one by one. Each price is a positive integer not exceeding 1000.

Output

- Total bill amount, a non-negative integer.

Samples

<u>Input</u>	<u>Output</u>
5 10 20 30 40 50	150
<u>Input</u>	<u>Output</u>
3 50 40 80	170

G. Odd Prime Number

You've been tasked with creating a program for a programming contest that determines whether an array contains an odd prime number. The problem statement specifies that the program should print **1 (True)** if there is an odd prime number in the array and **0 (False)** otherwise. **Consider that 1 is not a prime number.**

Input

The array size is N

Where, $1 \leq N \leq 100$

Output

- Think Carefully and show only the Odd Prime Number. (Also consider 1 is not a prime number)

Samples

<u>Input</u>	<u>Output</u>
7 1 2 4 6 8 12 15	0
<u>Input</u>	<u>Output</u>
8 1 2 4 3 6 8 12 15	1
<u>Input</u>	<u>Output</u>
9 1 2 4 6 8 12 15 17 19	1