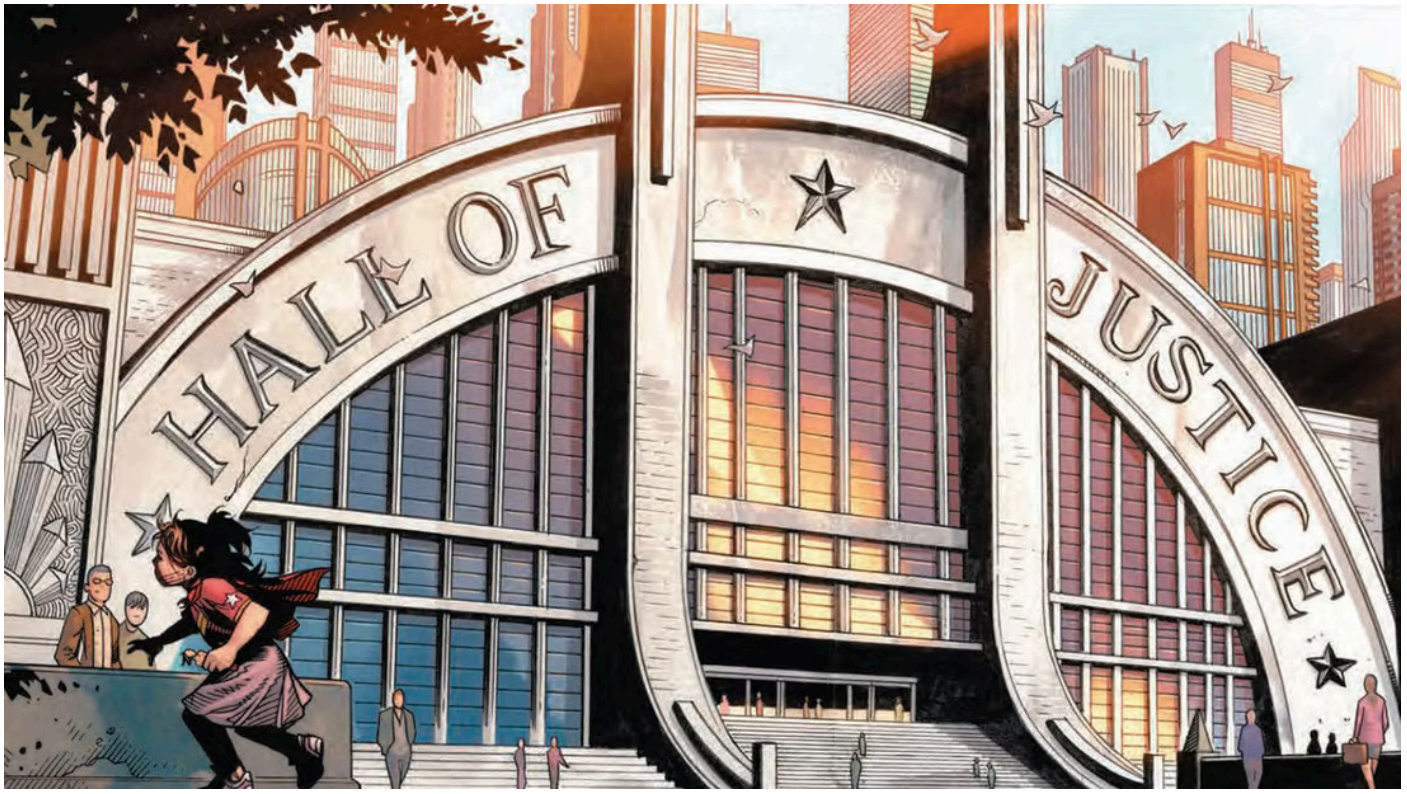
ELECTRICAL TEAM TRAINING

TASK 1

Welcome



Welcome to the Justice League training program! The Justice League is a group of the world's greatest superheroes. They fight against evil and protect the Earth. The Hall of Justice is their headquarters. It's where they plan missions, train new recruits, and keep peace. As a new recruit, you will face a series of tasks to test and improve your skills. Each task is guided by a different Justice League member. Complete all the tasks to prove you are worthy of joining the Hall of Justice and becoming an official member of the Justice League. Good luck, hero!

Task 1:Heroic Problem-Solving Day Using C++

About

This task consists of 5 problem-solving questions designed to test your skills in C++ programming. The difficulty increases gradually, allowing you to apply basic programming concepts and algorithmic thinking to solve each problem.

Requirements

- You have to solve the problems using cpp programming language only
- Create an account on HackerRank where you can run and submit your solutions in the contest environment

Contest Link

https://www.hackerrank.com/mia-robotics-task1

Bonus

- If you show good usage of functions and have clean code, you will get bonus points

Problem 0: Justice League Greetings

About

Imagine stepping into the Hall of Justice, where the legendary heroes of the Justice League await your arrival. Your mission is to greet each hero warmly, making a positive first impression. Each member will provide their name as input, and you must respond with a personalized greeting.

Description

Write a program that reads a name from the input and prints a greeting message in the format: "Hello, [name]!".

Input

A single line containing the name of a Justice League member.

Output

Print a single line containing the greeting message "Hello, [name]!".

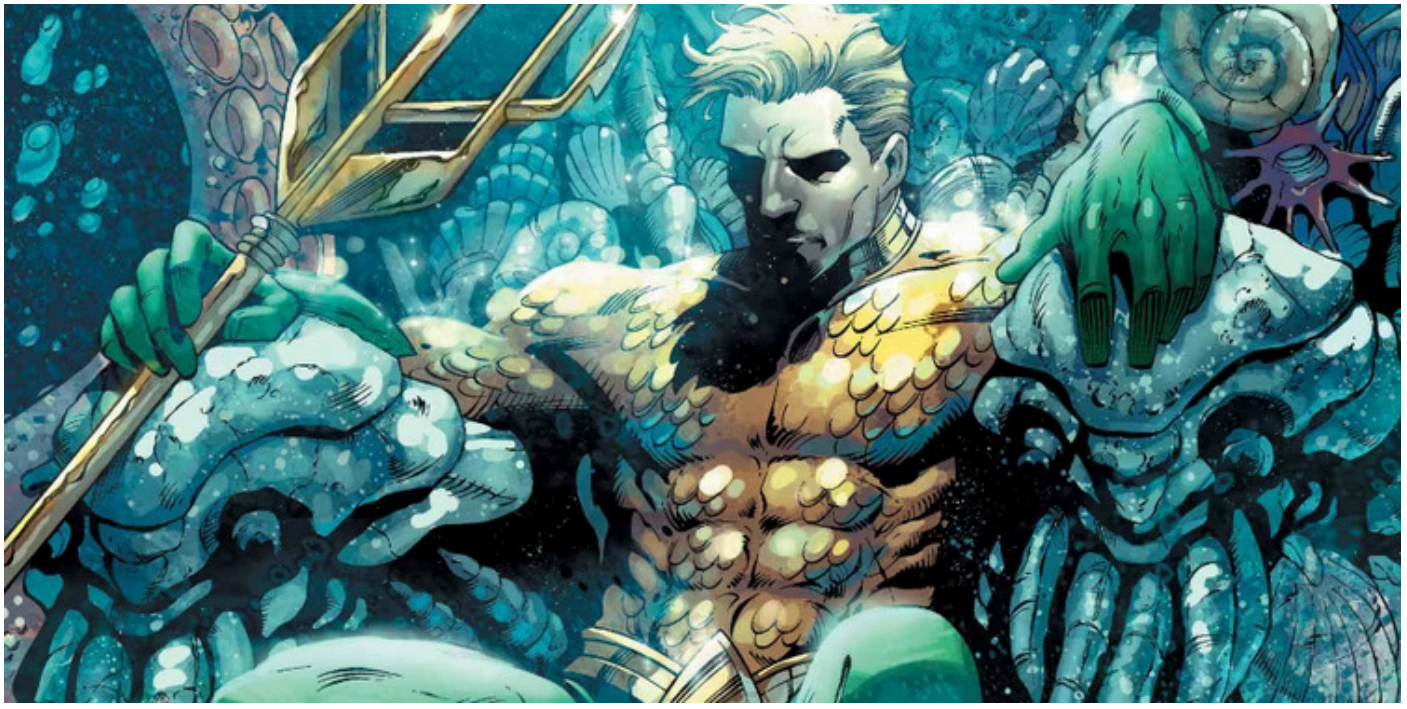
Example

Input	Wonder Woman
Output	Hello, Wonder Woman!
Input	Bruce
Output	Hello, Bruce!

Problem 1: Building Pyramids in Atlantis

About

Aquaman has summoned you to build pyramids using his magical tridents. The goal is to print a pyramid pattern using asterisks (*) representing his tridents, each row containing an increasing number of asterisks, showcasing your ability to scale new heights.



Description

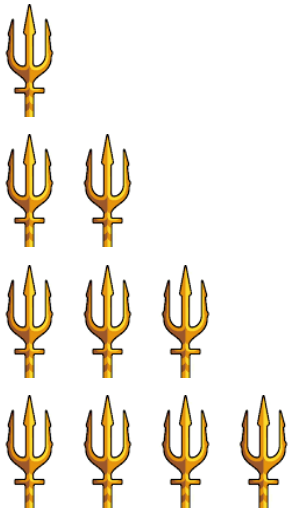
Write a program to print a pyramid pattern of a specified height using asterisks (*).

Input

An integer “n” representing the height of the pyramid (number of rows).

Output

Print a pyramid pattern where the first row has 1 asterisk, the second row has 2 asterisks, and so on, up to **n** rows.



Example

Input	2
Output	* **
Input	4
Output	* ** *** ****

Problem 2: Green Lantern's Array

About

Green Lantern, using his power ring's ability to construct various structures, has created an array where each element represents a unique energy signature. Your mission is to search through this array and find the position of a specific energy signature, demonstrating your prowess in searching algorithms.

Description

Write a program to search for a specific value in an array of integers and return its index if found. If the value is not present, the program should return -1.

Input

- The first line contains an integer **n**, where **n** is the number of elements in the array.
- The second line contains **n** space-separated integers representing the elements of the array.
- The third line contains the integer **target**, which is the value to search for.

Output

- Output the index of the target in the array (0-based index).
- If the target is not found in the array, output -1.

Example

Input	5 1 9 6 2 3 6
Output	2
Input	6 100 7 8 50 67 44 200
Output	-1

Problem 3: Flight Training with Superman

About

Superman takes you under his wing for flight training. Your mission is to track and report the maximum height achieved during your flight, showcasing your ability to manage and analyze data.

Description

Write a program that takes a list of integers representing heights achieved during flight training and returns the maximum height recorded.

Input

- The first line contains an integer **n**, the number of height measurements.
- The second line contains **n** space-separated integers representing the heights in meters.

Output

- Output a single integer, the maximum height recorded during the flight training.

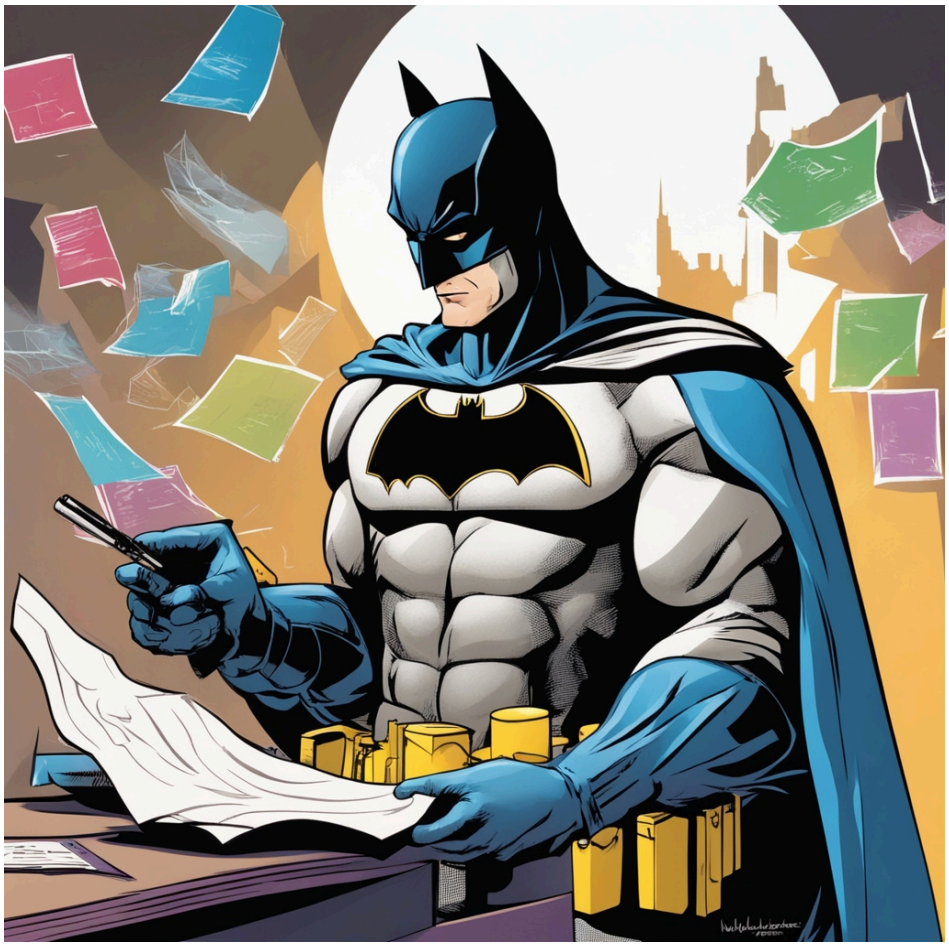
Example

Input	5 10 15 8 20 12
Output	20
Input	6 1 9 2 3 4 7
Output	9

Problem 4: Battle Planning with Batman

About

Batman has summoned you to the Batcave for strategic planning against powerful villains. Your objective is to analyze two grids: one representing the power levels of the Justice League and the other representing the power levels of the villains across different areas of the battlefield.



Description

Write a program to determine which team, either the Justice League or the villains, wins in the majority of corresponding cells based on their power levels. The winner in each cell is determined as follows:

- If **`justice_league[i][j] > villains[i][j]`**, the Justice League wins in that area.
- If **`justice_league[i][j] < villains[i][j]`**, the villains win in that area.
- If **`justice_league[i][j] == villains[i][j]`**, it results in a tie for that area.

The overall winner is the team that wins in the majority of areas compared to the other team.

Input

- The first line contains two integers **r** and **c**, where **r** is the number of rows and **c** is the number of columns in the grids.
- The next **r** lines contain **c** space-separated integers representing the power levels of the Justice League.
- The following **r** lines contain **c** space-separated integers representing the power levels of the villains.

Output

- Output the name of the team that wins in the majority of corresponding cells either “Justice League” or “Villains”. If both teams win an equal number of cells, output "Tie".

Example

Input	3 3 5 6 7 4 5 6 3 4 5 3 5 7 4 4 6 4 4 4
Output	Justice League
Input	3 3 4 5 6 3 4 5 2 3 4 5 6 7 6 7 8 7 8 9
Output	Villains
Input	3 3 4 5 6 3 4 5 2 3 4 4 5 6 3 4 5 2 3 4
Output	Tie

Submission

- You will submit your codes through hackerrank's contest only.
- You can submit your code multiple times.
- Make sure to submit your hackerrank username through this form: https://forms.gle/dppdWwtcSUHgnXQe8
- The Task's deadline is 17/7 11:59 PM.
- Q&A Sheet (if you have any question regarding the sessions or the task) : https://docs.google.com/spreadsheets/d/1Y0rni3-tSgYQ7Ox-1R9Lp5foVDbNku0jZ_8p-5yNPw4/edit?usp=sharing
- As mentioned before, including functions, comments, and making your code clean and well-documented will give bonus points.
- **Cheating is severely penalized**