

Assignment: Programming Challenges

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**Question 1: Integer Comparison Program**

****Objective:****

Write a program that reads three integers and checks whether they are in strictly increasing order.

****Problem Statement:****

You are given three integers a , b , and c , separated by spaces. Your task is to determine whether they satisfy the condition $a < b < c$.

****Input Format:****

- A single line containing three space-separated integers a , b , and c .

****Output Format:****

- Print "Yes" if the condition $a < b < c$ holds, otherwise print "No".

****Constraints:****

- $0 \leq a, b, c \leq 100$

****Example 1:****

****Input:****

1 3 8

****Output:****

Yes

****Example 2:****

****Input:****

3 8 1

****Output:****

No

**Question 2: Ezio and Guards**

Ezio can manipulate at most X number of guards with the apple of Eden.

Given that there are Y number of guards, predict if he can safely manipulate all of them.

****Input Format:****

- First line will contain T , the number of test cases. Then the test cases follow.

- Each test case consists of a single line of input, two integers X and Y .

****Output Format:****

- For each test case, print ****YES**** if it is possible for Ezio to manipulate all the guards. Otherwise, print ****NO****.
- You may print each character of the string in uppercase or lowercase (e.g., "yes", "YES", "YeS" are all valid).

****Constraints:****

- $1 \leq T \leq 100$
- $1 \leq X, Y \leq 100$

****Example:****

****Input:****

3
5 7
6 6
9 1

****Output:****

NO
YES
YES

**Question 3: Climate Classification**

Chef considers the climate ****HOT**** if the temperature is above ****20****, otherwise, he considers it ****COLD****.

You are given the temperature ****C****, determine whether the climate is ****HOT**** or ****COLD****.

****Input Format:****

- The first line of input will contain a single integer ****T****, denoting the number of test cases.
- The first and only line of each test case contains a single integer, the temperature ****C****.

****Output Format:****

- For each test case, print on a new line whether the climate is ****HOT**** or ****COLD****.
- You may print each character of the string in either uppercase or lowercase (e.g., "hot", "HOT", "hOt" are all valid).

****Constraints:****

- $1 \leq T \leq 50$
- $0 \leq C \leq 40$

****Example:****

****Input:****

2
21
16

****Output:****

HOT
COLD

**Question 4: Day of the Week (Java Program)**

Write a Java program that prompts the user to enter a number between ****1 and 7****. The program should then display the corresponding day of the week based on the input. Implement this functionality using both ****if-else**** and ****switch-case**** statements in separate implementations. If the user enters a number outside the range (1-7), the program should display an error message.

****Requirements:****

- The program should accept an integer input from the user.
- If the input is:
 - 1 => "Sunday"
 - 2 => "Monday"
 - 3 => "Tuesday"
 - 4 => "Wednesday"
 - 5 => "Thursday"
 - 6 => "Friday"
 - 7 => "Saturday"
- If the input is not in the range ****1-7****, display `"Invalid input! Please enter a number between 1 and 7."`
- Implement the solution using ****both if-else and switch-case separately****.

****Instructions:****

1. Solve each problem in a programming language of your choice.
2. Ensure that the programs correctly handle edge cases.
3. Submit your solution along with test cases verifying different inputs.
4. Maintain proper code indentation and readability.