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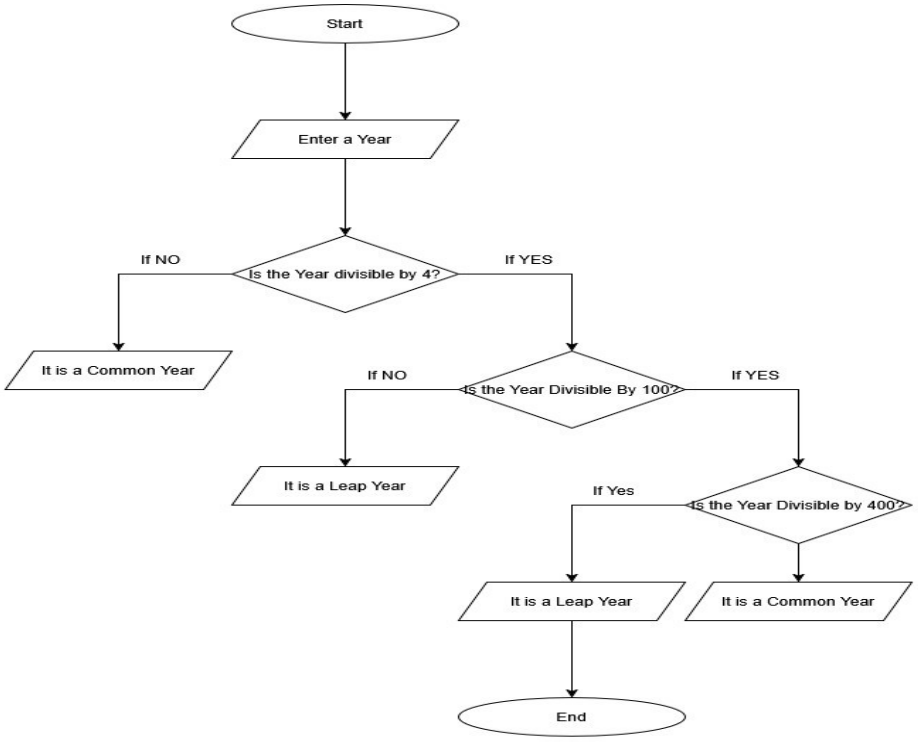
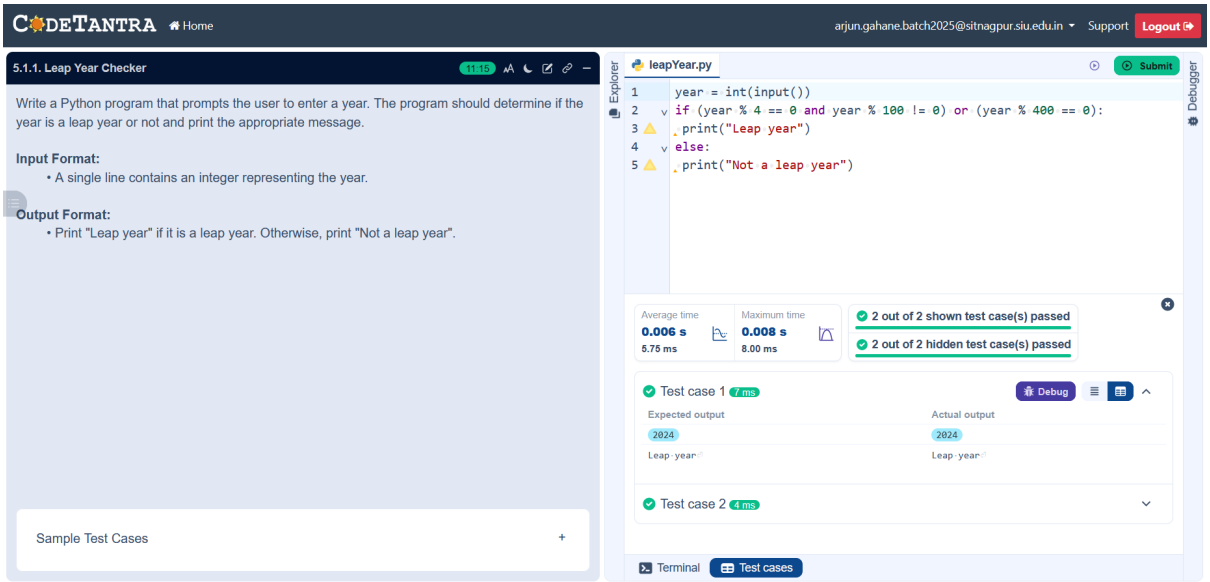
PPS 5.1.1

Algorithm: Leap Year Checker

- **Step 1: Start.**
- **Step 2: Read the input value for year.**
- **Step 3: Check the leap year conditions:**
  - **IF (year % 4 == 0 AND year % 100 != 0) OR (year % 400 == 0):**
    - **Proceed to Step 4.**
  - **ELSE:**
    - **Proceed to Step 5.**
- **Step 4: Print "Leap year" and go to Step 6.**
- **Step 5: Print "Not a leap year".**
- **Step 6: Stop.**

Flowchart:


Start
Enter a Year
Is the Year divisible by 4?
If NO
If YES
It is a Common Year
Is the Year Divisible By 100?
If NO
If YES
It is a Leap Year
Is the Year Divisible by 400?
If Yes
It is a Leap Year
It is a Common Year
End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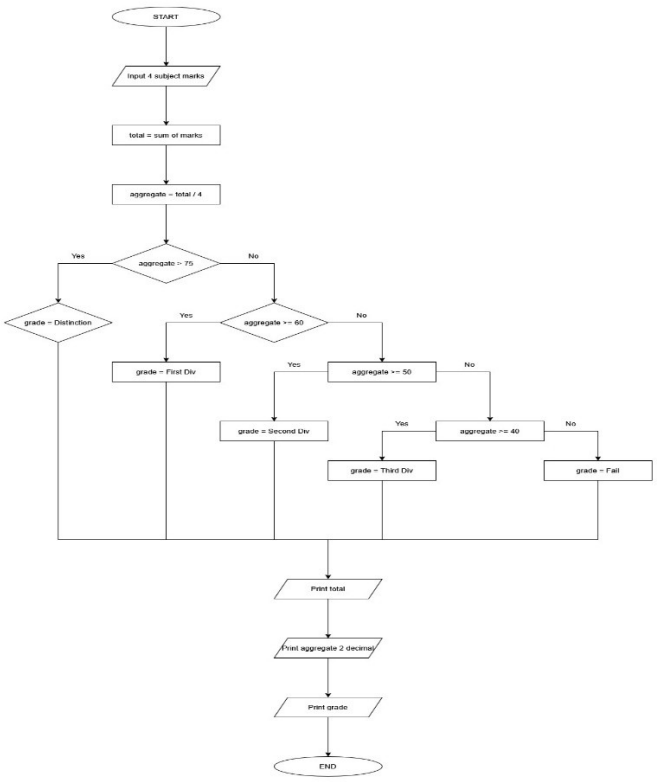
5.1.1. Leap Year Checker
Write a Python program that prompts the user to enter a year. The program should determine if the year is a leap year or not and print the appropriate message.
Input Format:
• A single line contains an integer representing the year.
Output Format:
• Print "Leap year" if it is a leap year. Otherwise, print "Not a leap year".
Sample Test Cases
leapYear.py
Submit
year = int(input())
if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
print("Leap year")
else:
print("Not a leap year")
Average time
0.006 s
5.75 ms
Maximum time
0.008 s
8.00 ms
2 out of 2 shown test case(s) passed
2 out of 2 hidden test case(s) passed
Test case 1
Debug
Expected output
2024
Leap year
Actual output
2024
Leap year
Test case 2
Terminal
Test cases

PPS 5.1.2

Algorithm: Student Grade Calculation

- **Step 1:** Start.
- **Step 2:** Read four space-separated integers representing the marks of four subjects into a list.
- **Step 3:** Calculate the **total** by summing the marks of the four subjects.
- **Step 4:** Calculate the **aggregate percentage** by dividing the total marks by 4 (since there are 4 subjects, each out of 100).
- **Step 5:** Determine the **grade** based on the aggregate percentage using the following conditions:
    - **IF** aggregate > 75, then **Grade = "Distinction"**.
    - **ELSE IF** aggregate ≥ 60, then **Grade = "First Division"**.
    - **ELSE IF** aggregate ≥ 50, then **Grade = "Second Division"**.
    - **ELSE IF** aggregate ≥ 40, then **Grade = "Third Division"**.
    - **ELSE**, **Grade = "Fail"**.
- **Step 6:** Print the **total** marks.
- **Step 7:** Print the **aggregate percentage** formatted to two decimal places.
- **Step 8:** Print the **grade**.
- **Step 9:** Stop.

Flowchart:



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5.1.2. Student Grade Based on Aggregate 04:51

Write a program to calculate the total marks, aggregate percentage, and grade of a student based on marks in four subjects. The grade is determined as follows:

- Aggregate $>$ 75%: Distinction
- Aggregate $>=$ 60% and $<$ 75%: First Division
- Aggregate $>=$ 50% and $<$ 60%: Second Division
- Aggregate $>=$ 40% and $<$ 50%: Third Division
- Aggregate $<$ 40%: Fail

Input Format:

- Four space-separated integers representing the marks in four subjects.

Output Format:

- The first line should print the total marks.
- The second line should print the aggregate percentage with two decimal places.
- The third line should print the grade.

Constraints:

- $0<=\text{marks in each subject}<=100$

Sample Test Cases +

studentG... Submit

```
# Read four subject marks (space-separated)
m1, m2, m3, m4 = map(int, input().split())

# Calculate total and aggregate percentage
total = m1 + m2 + m3 + m4
aggregate = total / 4

# Print total
print(total)

# Print aggregate with 2 decimal places
print(f"{aggregate:.2f}")
```

Average time 0.004 s 3.70 ms | Maximum time 0.007 s 7.00 ms

5 out of 5 shown test case(s) passed

5 out of 5 hidden test case(s) passed

Test case 1 7 ms Debug

Expected output	Actual output
85 90 78 88	85 90 78 88
341	341
85.25	85.25
Distinction	Distinction

Test case 2 5 ms

Terminal Test cases