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5.1.1] Leap Year Checker Program

Algorithm:

Step 1: Start the program.

Step 2: Input the year from the user.

Step 3: Check if $(\text{year} \% 400 == 0)$ OR $(\text{year} \% 4 == 0 \text{ AND } \text{year} \% 100 != 0)$.

Step 4: If the condition is true, print "Leap year".

Step 5: Otherwise, print "Not a leap year".

Step 6: End the program.

Code:

```
year = int(input())
if (year % 400 == 0) or (year % 4 == 0 and year % 100 != 0):
    print("Leap year")
else:
    print("Not a leap year")
```

Execution:

The screenshot shows the CodeTANTRA IDE interface. The top bar displays the user's name, email, and logout link. The left sidebar shows a '5.1.1. Leap Year Checker' problem statement: '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.' Below this are sections for 'Input Format' (a single line containing an integer representing the year) and 'Output Format' (Print "Leap year" if it is a leap year. Otherwise, print "Not a leap year").

The main workspace contains a code editor with the file 'leapYear.py' containing the provided Python code. To the right of the code editor is a results panel showing test case results. It indicates that 2 out of 2 shown test cases passed and 2 out of 2 hidden test cases passed. Test case 1 (input 2024) has an average time of 0.013 s and maximum time of 0.019 s. Test case 2 (input 2024) has an average time of 11 ms and maximum time of 19 ms. The results panel also shows the expected output (2024) and actual output (Leap year) for both test cases.

At the bottom of the interface, there are buttons for Terminal, Test cases, and navigation links like < Prev, Reset, Submit, and Next >.

Flowchart:

