

6.1.1 incremented date

A] Algorithm

Step 1: Start

Step 2: Input day

Step 3: Input month

Step 4: Input year

Step 5: if the year is a leap year

- If (year % 400 == 0) OR
- (year % 4 == 0 AND year % 100 != 0)
→ February has **29 days**
- Else
→ February has **28 days**

Step 6: Store number of days in each month

- January → 31
- February → 28 or 29
- March → 31
- April → 30
- May → 31
- June → 30
- July → 31
- August → 31
- September → 30
- October → 31
- November → 30
- December → 31

Step 7: If month < 1 OR month > 12

→ Print "**Invalid Date**" and Stop

Step 8: If day < 1 OR day > maximum days of that month

→ Print "**Invalid Date**" and Stop

Step 9: Increase day by 1

day = day + 1

Step 10: If day exceeds maximum days of that month

- Set day = 1
- Increase month by 1

Step 11:

If month > 12

- Set month = 1
- Increase year by 1

Step 12: Print the new date in format dd-mm-yyyy

Step 13: Stop

B] code

```
day = int(input())
month = int(input())
year = int(input())

def is_leap(year):
    if (year % 400 == 0) or (year % 4 == 0 and year % 100 != 0):
        return True
    return False

days_in_month = {
    1: 31,
    2: 29 if is_leap(year) else 28,
    3: 31,
    4: 30,
    5: 31,
    6: 30,
    7: 31,
    8: 31,
    9: 30,
    10: 31,
    11: 30,
    12: 31
}
```

```

# Check valid month

if month < 1 or month > 12:

    print("Invalid Date")

elif day < 1 or day > days_in_month[month]:

    print("Invalid Date")

else:

    day += 1

    if day > days_in_month[month]:

        day = 1

        month += 1

    if month > 12:

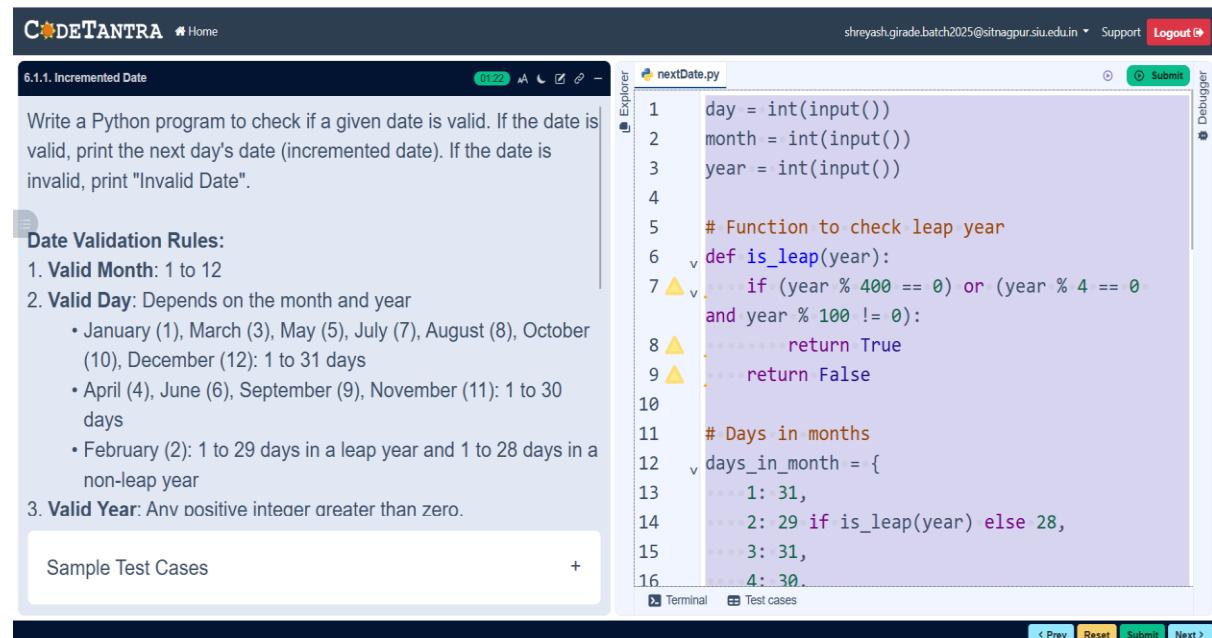
        month = 1

        year += 1

    print(f"{day:02d}-{month:02d}-{year}")

```

C] output



The screenshot shows the CodeTantra IDE interface. The title bar says "CODETANTRA Home". The user is logged in as "shreyash.girade.batch2025@sitnagpur.siu.edu.in". The main area displays a code editor titled "nextDate.py" with the following content:

```

1 day = int(input())
2 month = int(input())
3 year = int(input())
4
5 # Function to check leap year
6 def is_leap(year):
7     if (year % 400 == 0) or (year % 4 == 0 and year % 100 != 0):
8         return True
9     return False
10
11 # Days in months
12 days_in_month = {
13     1: 31,
14     2: 29 if is_leap(year) else 28,
15     3: 31,
16     4: 30.

```

The code editor has syntax highlighting and line numbers. Below the code editor, there are buttons for "Terminal" and "Test cases". At the bottom of the screen, there are navigation buttons: "< Prev", "Reset", "Submit", and "Next >".

D] flowchart

