PROJECT NO 16

PROJECT OF INT108

COMPUTER SCIENCE AND ENGINEERING

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Your task to create a functionality in which when user will input a range of two dates. Then your module will find and print all years in the range of given dates those are leap years separately and rest of the years those are non-leap separately.

For example:

Input date range in the format dd/mm/yy

(12/01/200) to (13/12/2025)

Leaps years are:

2000, 2004, 2008, 2012, 2016, 2020, 2024, 2028, 2032, 2036, 2040, 2044, 2048.

Non leap years are:

2001,2002,2005,2006,2007----------

(Student is free to decide the input and output layout for this mini project)Function for Date,Month and Year is valid or not !!!

CODE:-

```
def check_valid_date(date):
    day = int(date[0] + date[1])
    month = int(date[2] + date[3])
    year = int(date[4] + date[5] + date[6] + date[7])


    if month == 1 or month == 3 or month == 5 or month == 7 or month == 8 or month == 10 or month == 12:
        max_days = 31
    elif month == 4 or month == 6 or month == 9 or month == 11:
        max_days = 30
    elif year % 4 == 0 and year % 100 != 0 or year % 400 == 0:
        max_days = 29
    else:
        max_days = 28


    if month < 1 or month > 12:
        print("Please check the entered value !!")
    elif day < 1 or day > max_days:
        print("Please check the entered value !!")
    elif year < 0 or year > 9999:
        print("Invalid Year !!")
    # else:
    #     print("Valid Input")



# Function for checking leap year !!!
def check_leap_yr(year):
    if year % 4 == 0:
```

```
    if year % 100 == 0:
        if year % 400 == 0:
            print(year, end=" ")
    else:
        print(year, end=" ")
  return True


# 1. input first date as string in the format dd/mm/yyyy
date1 = str(input("Enter first Date in dd/mm/yyyy: "))
# 2. replacing forward slash from string
first_date = date1.replace("/", "")
# 3. checking that the inputted date is valid or not
check_valid_date(first_date)
# 4. taking out last four characters from string i.e, yyyy
st_yr = str(first_date[4] + first_date[5] + first_date[6] + first_date[7])
# 5. converting firs string into integer
int_st_yr = int(st_yr)

# 6. Input end date as string in the format dd/mm/yyyy
date2 = str(input("Enter Second Date in dd/mm/yyyy: "))
# 7. replacing forward slash from string
sec_date = date2.replace("/", "")
# 8. checking that the inputted date is valid or not
check_valid_date(sec_date)
# 9. taking out last four characters from string i.e, yyyy
end_yr = str(sec_date[4] + sec_date[5] + sec_date[6] + sec_date[7])
# 10. converting firs string into integer
int_end_yr = int(end_yr)
```

```
print(f"Non-Leap year between {date1} and {date2} are :-")
# 12. create for loop to print non leap years.
for i in range(int_st_yr, int_end_yr+1):
    if i % 4 != 0:
        print(i, end=" ")


print(f"\nLeap year between {date1} and {date2} are :-")
# 11. create while loop for output by calling leap yr function.
while int_st_yr <= int_end_yr:
    check_leap_yr(int_st_yr)
    int_st_yr += 1

print("\n")
```

RESULT:

```
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
====== RESTART: C:/Users/DELL/AppData/Local/Programs/Python/Python311/5.py =====
Enter first Date in dd/mm/yyyy: 11/11/2011
Enter Second Date in dd/mm/yyyy: 12/12/2012
Non-Leap year between 11/11/2011 and 12/12/2012 are :-
2011
Leap year between 11/11/2011 and 12/12/2012 are :-
2012


====== RESTART: C:/Users/DELL/AppData/Local/Programs/Python/Python311/2.py =====
Enter first Date in dd/mm/yyyy: 09/09/1999
Enter Second Date in dd/mm/yyyy: 07/08/1976
Non-Leap year between 09/09/1999 and 07/08/1976 are :-


Leap year between 09/09/1999 and 07/08/1976 are :-
```