KATHMANDU UNIVERSITY

Dhulikhel,Kavrepalanchok

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Project on: Gregorian Calendar

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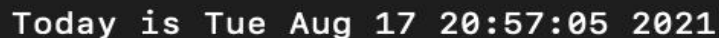Department: Computer
Science and Engineering

About the Project

This project is sum of 3 program which are compile together to form a single executable file. The project basically displays the calendar of the desired year by the user. This project is made on IDE Visual Code Studio. The project uses gcc to compile the program. This project has got other features like:

1. To add any event.
2. To write the to-do list
3.

Home page of the program:

In the home page it shows the current date and time and it ask for user to enter the year they want to print the calendar of.

```
Today is Tue Aug 17 20:57:05 2021

Enter your desired year:
```

After entering the desire date:

After entering the desire date, the program shows the program shows the calendar of the year said by the user and along with the calendar it also shows the special event and the features of the program. There are two default special day they are New year and Christmas Day.

```
--------------January-------------
   Sun   Mon   Tue   Wed  Thurs   Fri   Sat
    1     2     3     4     5     6     7
    8     9    10    11    12    13    14
   15    16    17    18    19    20    21
   22    23    24    25    26    27    28
   29    30    31

-------------February-------------
   Sun   Mon   Tue   Wed  Thurs   Fri   Sat
                      1     2     3     4
    5     6     7     8     9    10    11
   12    13    14    15    16    17    18
   19    20    21    22    23    24    25
   26    27    28

--------------March-------------
   Sun   Mon   Tue   Wed  Thurs   Fri   Sat
                      1     2     3     4
    5     6     7     8     9    10    11
   12    13    14    15    16    17    18
   19    20    21    22    23    24    25
   26    27    28    29    30    31

--------------April-------------
   Sun   Mon   Tue   Wed  Thurs   Fri   Sat
                                        1
    2     3     4     5     6     7     8
    9    10    11    12    13    14    15
   16    17    18    19    20    21    22
   23    24    25    26    27    28    29
   30

--------------May-------------
   Sun   Mon   Tue   Wed  Thurs   Fri   Sat
          1     2     3     4     5     6
    7     8     9    10    11    12    13
   14    15    16    17    18    19    20
   21    22    23    24    25    26    27
   28    29    30    31

--------------June-------------
   Sun   Mon   Tue   Wed  Thurs   Fri   Sat
                            1     2     3
    4     5     6     7     8     9    10
   11    12    13    14    15    16    17
   18    19    20    21    22    23    24
```

```
-------------September-------------
   Sun   Mon   Tue   Wed  Thurs   Fri   Sat
                                  1     2
    3     4     5     6     7     8     9
   10    11    12    13    14    15    16
   17    18    19    20    21    22    23
   24    25    26    27    28    29    30

-------------October-------------
   Sun   Mon   Tue   Wed  Thurs   Fri   Sat
    1     2     3     4     5     6     7
    8     9    10    11    12    13    14
   15    16    17    18    19    20    21
   22    23    24    25    26    27    28
   29    30    31

-------------November-------------
   Sun   Mon   Tue   Wed  Thurs   Fri   Sat
                      1     2     3     4
    5     6     7     8     9    10    11
   12    13    14    15    16    17    18
   19    20    21    22    23    24    25
   26    27    28    29    30

-------------December-------------
   Sun   Mon   Tue   Wed  Thurs   Fri   Sat
                                  1     2
    3     4     5     6     7     8     9
   10    11    12    13    14    15    16
   17    18    19    20    21    22    23
   24    25    26    27    28    29    30
   31

**************Special Events***********

        Date              Event

        1-jan            New Year
        25-dec           Christmas Day


****************************************

-------Features--------

1. To-DO list
2. Add the special day of the year
3. Reload the program.
press(1/2/3) and press enter:
```

On choosing feature number 1

On choosing the feature number 1 following thing happens:
1. It will ask whether to write any to-do list, show the to do list or don't write anything
2. If you choose to write the to-do list it will again ask to add on existing list or add new one.
3. On writing an existing one you can quit the feature to again go back to calendar.
4. On writing on new one you can delete the existing list and write new one.
5. If you choose to show the list it will show the existing list
6. If you don't want to write or show anything it will go back to calendar

```
*******************************************

-------Features--------

1. To-DO list
2. Add the special day of the year
3. Reload the program.
press(1/2/3) and press enter:
1



Do you want to write any to-do list for tommorrow?

 press 'Y' for- yes
 press 'N' for- No
 press'S' to show the to-do list: ▌
```

```
*****************************************


-------Features--------

1. To-DO list
2. Add the special day of the year
3. Reload the program.
press(1/2/3) and press enter:
1




Do you want to write any to-do list for tommorrow?

 press 'Y' for- yes
 press 'N' for- No
 press'S' to show the to-do list:  Y
Do you want to create a new to-do list or write in exsiting one?

 press 'E' to add in Existing list
 Press 'N' for new one
 'q' to quit:   N


 Write your to do list and press 'q' to quit:

1. Mini project
q
```

```
**********************************************


-------Features--------

1. To-DO list
2. Add the special day of the year
3. Reload the program.
press(1/2/3) and press enter:
1



Do you want to write any to-do list for tommorrow?

 press 'Y' for- yes
 press 'N' for- No
 press'S' to show the to-do list:  S

1. Mini project
?
Press q to quit:          ▌
```

choosing feature number 2:
On choosing feature number 2 following things happens:
1. you can either quit and return to calendar or you can add event
2. you have to write the date and month and the event and the event will be shown on home of the calendar.

```
****************************************


--------Features--------

1. To-DO list
2. Add the special day of the year
3. Reload the program.
press(1/2/3) and press enter:
2
----------ADD EVENT-----------

1. Add event
2. quit

choose(1/2):      1


 Enter the dd/mm(Ex: 3/4 for 4 of april):       2/1
what is the event:
Friend's birthday▊

*********************************************
```

On choosing the 3rd option:
The program will be reloaded and again will ask for the desired year.

Main Algorithm of the function:
There are actually two main algorithm of the function they are:

1. To find the if the user has input the leap year.

```
if ((year % 4 == 0 && year % 100 != 0) || year % 400 == 0)
```

 The algorithm checks whether the year is leap or not.
If the year is fully divisible by 4 and not divisible by 100 or divisible by 400 then the year is leap year.

2. To find the first day of the year.

```
3.    int d;
4.      int firstDay;
5.      d = (((year - 1) * 365) + ((year - 1) / 4) - ((year - 1) / 100) + ((year) / 400) + 1) % 7;
6.      return firstDay;
```

   here the variable d stores the value of the first day of the year which is floating point number but the int data type convert it into the integer.