Programming Fundamentals

Fall 2020

Project Details
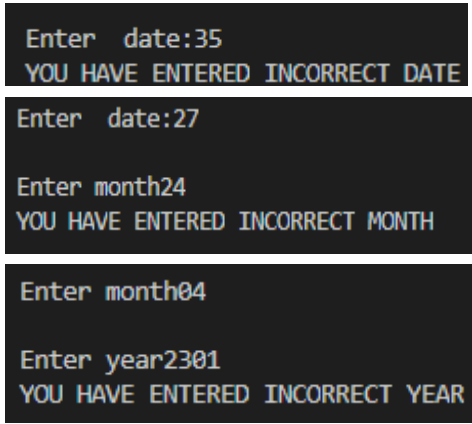
Project	
Project Title	Calendar
Registration Number	Project By: 2020-CS-86 | Tester: 2020-CS-144
Summary	*This Project is a Calendar Aplication. It is a program to print a calendar of a specific year.The program asks the user to input the year for which the calendar would be printed.*
Features	*Find out the day according to date entered.* *Print all the calendar of the year.* *Print calendar for any year* *Add a note* *Add a reminder* *Check all reminders* *View corona virus precautions.*
Implementation Details	
Write down the names of all datatypes used in the code.	Int, string, bool, char.
How many time for, while and do-while loop is used.	For loop: 3 While loop: 0 Do while 1
Do you have used switch statement, if yes then enter the purpose of each occurrence.	Number of switch statements: 1 Its purpose was to select option number in menu.
Do you have any compile time error in your code?	No
Do you have any run time error in your code?	No
Enter the names of major modules in your system.	It is totally menu based so all are major modules.

Write down all parallel 1D arrays and their purpose	No 1D array is used
Write down all 2D arrays and their purpose.	No 2D array is used
What is the code length? Size in KBs and lines of code	9KBs (.cpp) Lines of code: 407 lines
Details of functions	Add boxes on your requirement
Function Name 1	Day Number
Function Prototype	int dayNumber(int day, int month, int year)
Description	.It tells the number of the day(Monday = 1) according to the date passed
Function Return type and purpose	The return type is int as number of the day
Parameter names and purpose of each parameter	int day, int month, int year The day month and year of the date.
Function Name 2	Month Name
Function Prototype	string getmonthname(int monthNumber)
Description	Tells the name of the month according to its number for e.g. 2 = February
Function Return type and purpose	The return type is string as name of month
Parameter names and purpose of each parameter	int monthNumber To check which month it is
Function Name 3	Number of Days

Function Prototype	int numberOfDays(int monthNumber, int year)
Description	Tells the number of days in the month for e.g. January = 31
Function Return type and purpose	Int return type as number of days
Parameter names and purpose of each parameter	int monthNumber, int year Month number to check days and year to check if its leap year or not

Function Name 4	Print Calendar
Function Prototype	void printCalendar(int year);
Description	It will print the calendar
Function Return type and purpose	No return types
Parameter names and purpose of each parameter	int year To print its calendar

Function Name 5	Validate date
Function Prototype	bool datevalidater(int dater);
Description	Validates the date.
Function Return type and purpose	Bool return type to tell if date is valid or not
Parameter names and purpose of each parameter	int dater Date to check

Function Name 6	Validate Month
Function Prototype	bool monthvalidater(int monthr);
Description	Validates Month
Function Return type and purpose	Bool return type to tell if month is valid or not
Parameter names and purpose of each parameter	int monthr Month to check
Function Name 7	Validate Year
Function Prototype	bool yearvalidater(int yearr);
Description	Validates year
Function Return type and purpose	Bool return type to tell if year is valid or not
Parameter names and purpose of each parameter	int yearr year to check
Format of files	Add boxes on your requirement
File Name 1	NO FILE

Details of Interfaces	
Main Menu Details	
Option 1	*FIND OUT THE DAY*
Purpose	*Just inputs a date and tells if its valid or not*
Input/ Output	*Input: date, month year*
Validation	*Day, month and year will be validated.* *Upon wrong input of anything, it will be asked again for input.*
Test cases with sample inputs and outputs	*Input:* *Enter date:30* *Enter month: 5* *Enter year: 2310* *Output:* *YOU HAVE ENTERED INCORRECT YEAR* *Input:* *Enter date:55* *YOU HAVE ENTERED INCORRECT YEAR* *Enter date:12* *Enter month: 2* *Enter year: 2020* *Output: WEDNESDAY*
Test Case Status (OK/NOK)	*OK*

Testing Input and Output	*Input:* *Enter date:55* *YOU HAVE ENTERED INCORRECT YEAR* *Enter date:12* *Enter month: 2* *Enter year: 2020* *Output: NO OUTPUT!*
Error (if any)	*There was no error but there was also no output*
Which array is used on this option for data storage and retrieval?	*No arrays*
Which function is used to call for this option?	*bool datevalidater(int dater)* *bool monthvalidater(int monthr)* *bool yearvalidater(int yearr)*
Screenshot	Enter date:35 YOU HAVE ENTERED INCORRECT DATE Enter date:27 Enter month24 YOU HAVE ENTERED INCORRECT MONTH Enter month04 Enter year2301 YOU HAVE ENTERED INCORRECT YEAR

Option 2	*PRINT ALL THE CALENDAR OF YEAR*
Purpose	*Prints the calendar of whole year*
Input/ Output	*Input:* *year* *Output:* **CALENDAR**
Validation	*Validates year*
Test cases with sample inputs and outputs	*Input 1: 2017* *Output:* **CALENDAR** *Enter year: 2310* *output* *YOU HAVE ENTERED INCORRECT YEAR*
Test Case Status (OK/NOK)	*OK*
Testing Input and Output	*Input 1: 2017* *Output:* **CALENDAR** *OK*
Error (if any)	*NONE*
Which function is used to call for this option?	*bool yearvalidater(int yearr)* *void printCalendar(int year)*

Screenshot

```
-------------------------------------January-------------------------------------
    Sun        Mon        Tue        Wed       Thur        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       Thur        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       Thur        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       Thur        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       Thur        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       Thur        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

-------------------------------------July---------------------------------------
    Sun        Mon        Tue        Wed       Thur        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

-------------------------------------August--------------------------------------
    Sun        Mon        Tue        Wed       Thur        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
```

```
------------------------------------September------------------------------------
   Sun      Mon      Tue      Wed      Thur      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      Thur      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      Thur      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      Thur      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
```

```
Enter year2301
YOU HAVE ENTERED INCORRECT YEAR
```

Option 3	*PRINT ANY YEAR*
Purpose	*Prints the calendar of whole year*
Input/ Output	*Input:* *year* *Output:* **CALENDAR**
Validation	*Validates year*

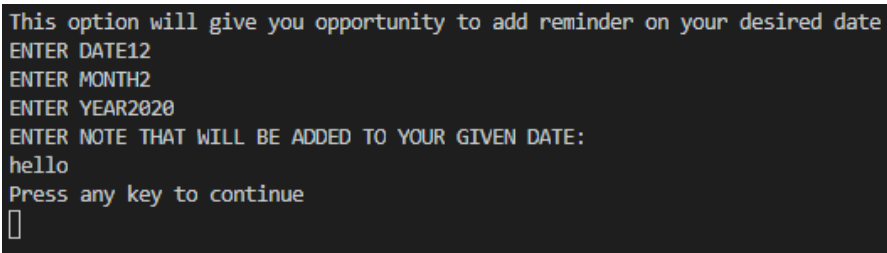|	
Test cases with sample inputs and outputs	*Input 1: 2017* *Output:* **CALENDAR** *Enter year: 2310* *output* *YOU HAVE ENTERED INCORRECT YEAR*
Test Case Status (OK/NOK)	*OK*
Testing Input and Output	*Enter year: 2017* *Output:* **CALENDAR** *Enter year: 2310* *output* *YOU HAVE ENTERED INCORRECT YEAR*
Error (if any)	*NONE*
Which function is used to call for this option?	*bool yearvalidater(int yearr)* *void printCalendar(int year)*

Screenshot	

```
--------------------------------------January--------------------------------------
    Sun        Mon        Tue        Wed        Thur        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        Thur        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        Thur        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        Thur        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        Thur        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        Thur        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

--------------------------------------July--------------------------------------
    Sun        Mon        Tue        Wed        Thur        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

-------------------------------------August-------------------------------------
    Sun        Mon        Tue        Wed        Thur        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
```
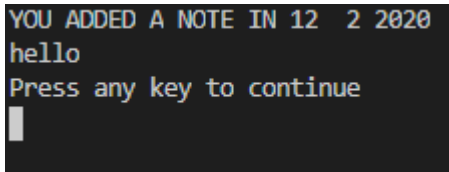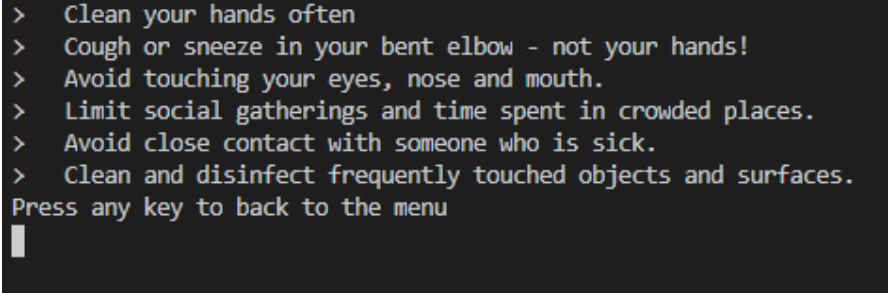
```
---------------------------------September---------------------------------------
      Sun       Mon       Tue       Wed      Thur       Fri       Sat
                                                          1         2
       3         4         5         6         7         8         9
      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      Thur       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      Thur       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      Thur       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


Enter year2301
YOU HAVE ENTERED INCORRECT YEAR
```

Option 4	*ADD NOTE*
Purpose	*To add any note in the program/text file.*
Input/ Output	*INCOMPLETE CASE*
Validation	*INCOMPLETE CASE*
Test cases with sample inputs and outputs	*INCOMPLETE CASE*
Test Case Status (OK/NOK)	*NOK*
Testing Input and Output	*INCOMPLETE CASE*

Error (if any)	*INCOMPLETE CASE*
Which function is used to call for this option?	*INCOMPLETE CASE*
Screenshot	*INCOMPLETE CASE*
Option 5	*TO ADD REMINDER*
Purpose	*User can add any reminder for future*
Input/ Output	*Input: date, month, year text* *Output: *ADDS A REMINDER IN PROGRAM**
Validation	*Day, month and year will be validated.* *Upon wrong input of anything, it will be asked again for input.*
Test cases with sample inputs and outputs	*Input:* *Enter date:30* *Enter month: 5* *Enter year: 2310* *YOU HAVE ENTERED INCORRECT YEAR* *Input:* *Enter date:55* *YOU HAVE ENTERED INCORRECT YEAR* *Enter date:12* *Enter month: 2* *Enter year: 2020* *Enter note: hello*

	Output: Note Added
Test Case Status (OK/NOK)	*OK*
Testing Input and Output	*Input:* *Enter date:30* *Enter month: 5* *Enter year: 2310* *YOU HAVE ENTERED INCORRECT YEAR* *Input:* *Enter date:55* *YOU HAVE ENTERED INCORRECT YEAR* *Enter date:12* *Enter month: 2* *Enter year: 2020* *Enter note: hello* *Output:*
Error (if any)	*NO*
Which function is used to call for this option?	*NO FUNCTION*
Screenshot	This option will give you opportunity to add reminder on your desired date ENTER DATE12 ENTER MONTH2 ENTER YEAR2020 ENTER NOTE THAT WILL BE ADDED TO YOUR GIVEN DATE: hello Press any key to continue

Option 6	*CHECK REMINDERS*
Purpose	*To view previous reminders*
Input/ Output	*NO INPUT REQUIRED*
Validation	*NO VALIDATION*
Test cases with sample inputs and outputs	
Test Case Status (OK/NOK)	*OK*
Testing Input and Output	*REFER TO OPTION 5*
Error (if any)	*NO*
Which function is used to call for this option?	*NO FUNCTION WAS CALLED*
Screenshot	YOU ADDED A NOTE IN 12 2 2020 hello Press any key to continue

Option 7	*VIEW CORONA VIRUS PRECAUTIONS*
Purpose	*I do not know*
Input/ Output	*NO INPUT REQUIRED*
Validation	*NO VALIDATION*
Test cases with sample inputs and outputs	

Test Case Status (OK/NOK)	*OK*
Testing Input and Output	
Error (if any)	*NO*
Which function is used to call for this option?	*NO FUNCTION WAS CALLED*
Screenshot	

```
>   Clean your hands often
>   Cough or sneeze in your bent elbow - not your hands!
>   Avoid touching your eyes, nose and mouth.
>   Limit social gatherings and time spent in crowded places.
>   Avoid close contact with someone who is sick.
>   Clean and disinfect frequently touched objects and surfaces.
Press any key to back to the menu
```

Note:
- Add the details of all options of the main menu in the same format described above.
- In case of sub, menus, add the menu in the same format as the main menu.
- In case of the login screen etc., explain it after all menus, in the same format as the menu option.