**Programming Fundamentals**

Fall 2020

**Project Details**

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| ***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 |  |
|  | |
| 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 |  |
|  | |
| 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 |  |
|  | |
| 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 |  |
|  | |
| 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 |  |
|  | |
| 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 |  |
|  | |

**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.