CALENDAR USING C

AIM

Calendar became an important thing in our lives with the help of calendar we can identify the days and with the help of this we can keep track of upcoming meetings, deadlines and other milestones they help us to visualize our schedule and remind us of tasks now in this project we are going to make calendar which will display the specific year which we have mentioned in the input. For making calendar project there are many ways to make this but mainly we have used the flow controls to make the project easier to understand.

Algorithm of Calendar Project

START

Step 1: Enter your choice

　　　　Press 1 to print the calendar of the year you wish to see.

　　　　Press 2 to exit the program.

Step 2: If you press 1 then it will ask to input the year of the calendar that you wish to see.

Step 3: Then the control goes to the PrintCalendar function which prints out the heading of the calendar with the year mentioned.

Step 4: The year is then passed to another function named dayNumber which return a value of integer type after solving the equations,

year -= month < 3;

return (year + year/4 – year/100 + year/400 + t[month-1] + day) % 7 ;

Step 5: We then use a for loop to print each month.

Step 6: Inside the for loop a function named NumberofDays is called which return the number of days in the particular month accordingly using if statements.

Step 7: The name of the month is printed using another function named getMonthName which updates the string stored in month using switch case statements during each iteration of the for loop and gives us the month name required.

Step 8: We then print the days of the week and using another for loop within we print all the consecutive days of the particular month.

Step 9: The Steps 4, 5, 6 and 7 are repeated 11 more times to print the calendar of the whole year.
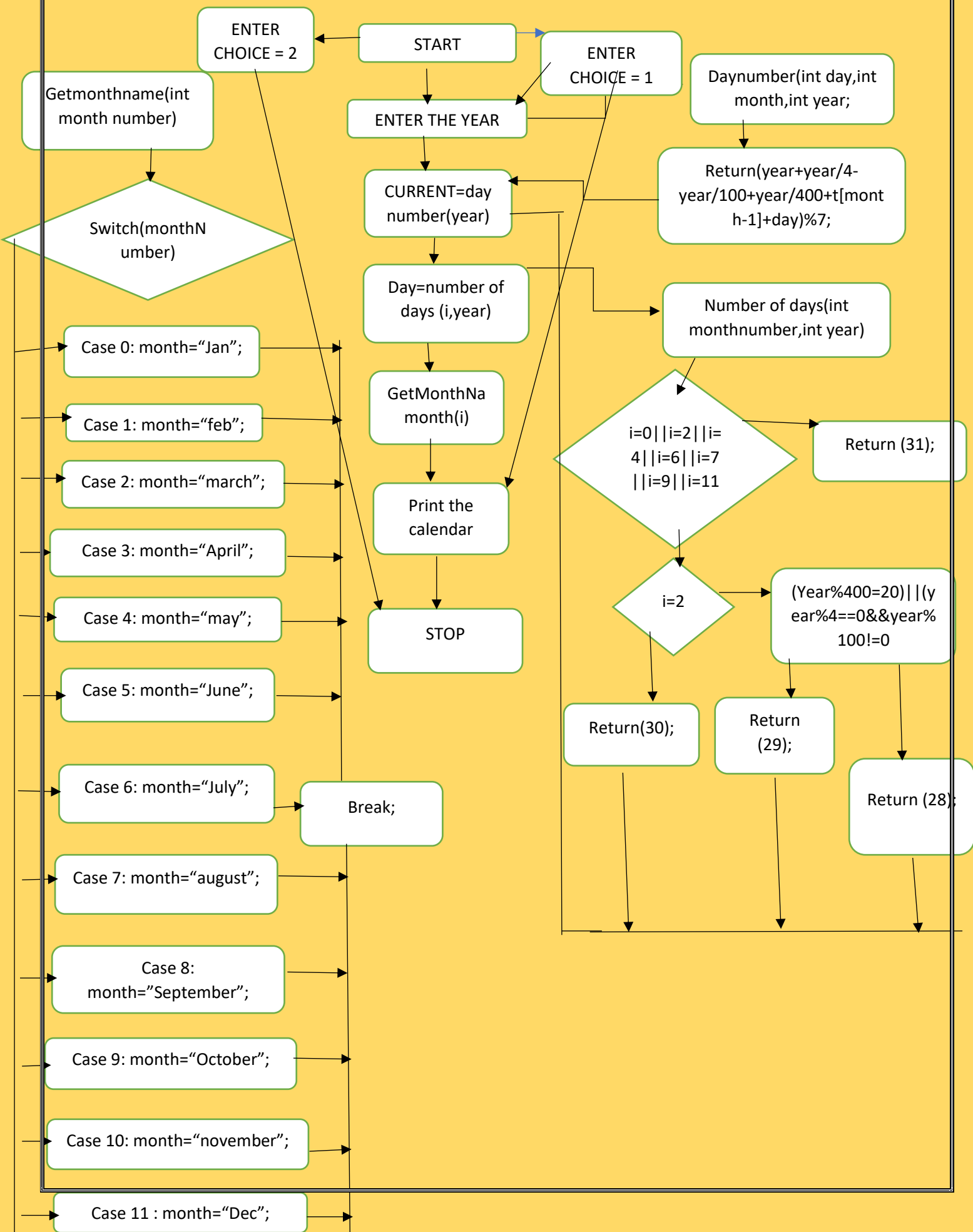
Step 10: After all the iterations are completed the program again goes to step 1 and asks to enter selection.

Step 11: If we press 1 all the steps are repeated again and it keeps on repeating if we press1

If we press 2 the program exists .

STOP

FLOWCHART

START

ENTER CHOICE = 2

ENTER CHOICE = 1

Daynumber(int day,int month,int year;

ENTER THE YEAR

Return(year+year/4-year/100+year/400+t[month-1]+day)%7;

Getmonthname(int month number)

CURRENT=day number(year)

Switch(monthNumber)

Day=number of days (i,year)

Number of days(int monthnumber,int year)

GetMonthNa month(i)

i=0||i=2||i=4||i=6||i=7||i=9||i=11

Return (31);

Case 0: month="Jan";

Case 1: month="feb";

Print the calendar

Case 2: month="march";

i=2

(Year%400=20)||(year%4==0&&year%100!=0

Case 3: month="April";

Case 4: month="may";

STOP

Case 5: month="June";

Return(30);

Return (29);

Case 6: month="July";

Break;

Return (28);

Case 7: month="august";

Case 8: month="September";

Case 9: month="October";

Case 10: month="november";

Case 11 : month="Dec";

SOURCE CODE –

```c
#include <stdio.h>
#include<stdlib.h>
int dayNumber(int day, int month, int year)
{
    year -= month < 3;
    return (year + year / 4 - year / 100 + year / 400 + day) % 7;
}
char *getMonthName(int monthNumber)
{
    char *month;
    switch (monthNumber)
    {
    case 0:
        month = "January";
        break;
    case 1:
        month = "February";
        break;
    case 2:
        month = "March";
        break;
    case 3:
        month = "April";
        break;
    case 4:
        month = "May";
        break;
    case 5:
        month = "June";
        break;
    case 6:
        month = "July";
        break;
    case 7:
        month = "August";
        break;
    case 8:
        month = "September";
        break;
    case 9:
        month = "October";
        break;
    case 10:
        month = "November";
        break;
```

```c
    case 11:
        month = "December";
        break;
    }
    return month;
}
int numberOfDays(int monthNumber, int year)
{
    if (monthNumber == 0 || monthNumber == 2 || monthNumber == 4 ||
monthNumber == 6 || monthNumber == 7 || monthNumber == 9 || monthNumber == 11)
    {
        return (31);
    }
    else if (monthNumber == 1)
    {
        if (year % 400 == 0 || (year % 4 == 0 && year % 100 != 0))
            return (29);
        else
            return (28);
    }
    else
    {
        return (30);
    }
}
void printCalendar(int year)
{
    printf("Calendar - %d\n\n", year);
    int days, i;
    int current = dayNumber(1, 1, year);
    for (i = 0; i < 12; i++)
    {
        days = numberOfDays(i, year);
        printf("\n -----------%s------------\n",
                getMonthName(i));
        printf("  Sun  Mon  Tue  Wed  Thu  Fri  Sat\n");
        int k, j;
        for (k = 0; k < current; k++)
            printf("     ");
        for (j = 1; j <= days; j++)
        {
            printf("%5d", j);
            if (++k > 6)
            {
                k = 0;
                printf("\n");
            }
        }
```

```c
        if (k)
            printf("\n");
        current = k;
    }
    return;
}
int print_menu()
{

    printf("MENU\n");
    printf("Press 1 to Enter the calendar year that you want to see\n");
    printf("Press 2 to EXIT\n");
    printf("Enter Selection: ");
    int selection = getchar();
    return selection;
}
int main(int argc, char *argv[])
{
    int year, choice;
    printf("\n        WELCOME        \n");
    printf("  This program helps you to view the Calendar of the whole
year\n");
    int selection = print_menu();
    while(1)
    {
        switch (selection)
        {
            case '1':
                printf ("\nselected 1\n");
                printf("\n  Enter the Year of the Calendar that you wish to
see : ");
                scanf("%d", &year);
                printCalendar(year);
                selection = print_menu();
                break;
            case '2':
                printf("\nselcted 2\nExiting");
                exit(0);
                break;
            default:
                printf("Invalid Input\n");
                selection = print_menu();
                break;
        }
    }
    return 0;
}
```

OUTPUT OF THE CALENDER FOR THEYEAR 2022-

```
            WELCOME
   This program helps you to view the Calendar of the whole year
MENU
Press 1 to Enter the calendar year that you want to see
Press 2 to EXIT
Enter Selection:
```

```
C:\Users\Sahil Sahu\OneDrive\Desktop\C programming solutions\Mini Project\mini_project_calender_testingphase.exe

            WELCOME
   This program helps you to view the Calendar of the whole year
MENU
Press 1 to Enter the calendar year that you want to see
Press 2 to EXIT
Enter Selection: 1

selected 1

  Enter the Year of the Calendar that you wish to see : 2022
Calendar - 2022


  ------------January-------------
  Sun Mon Tue Wed Thu 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 Thu 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 Thu 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 Thu 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 Thu Fri Sat
    1    2    3    4    5    6    7
```

```
C:\Users\Sahil Sahu\OneDrive\Desktop\C programming solutions\Mini Project\mini_project_calender_testingphase.exe
   17   18   19   20   21   22   23
   24   25   26   27   28   29   30

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

```
-----------September-------------
Sun  Mon  Tue  Wed  Thu  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  Thu  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  Thu  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  Thu  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
MENU
Press 1 to Enter the calendar year that you want to see
Press 2 to EXIT
Enter Selection:
```

```
        WELCOME
  This program helps you to view the Calendar of the whole year
MENU
Press 1 to Enter the calendar year that you want to see
Press 2 to EXIT
Enter Selection: 2

selcted 2
Exiting
-------------------------------
Process exited after 2.385 seconds with return value 0
Press any key to continue . . .
```

project done by-
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