

MINI PROJECT

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B.tech 2nd year,SGSITS INDORE

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1 AIM :

By Entering year we can get the whole Calendar as output

2 code with comment

```
//CODE IN C++
#include<bits/stdc++.h>
using namespace std;

int dayNumber(int day, int month, int year)
{
    static int t[] = { 0, 3, 2, 5, 0, 3, 5, 1,4, 6, 2, 4 };
    year -= month < 3;
    return ( year + year/4 - year/100 + year/400 + t[month-1] + day) % 7;
}

string getMonthName(int monthNumber)
{
    string months[] = {"January", "February", "March","April", "May", "June","July", "August",
                      "September","October", "November", "December"};

    return (months[monthNumber]);
}

int numberOfDays (int monthNumber, int year)
{
    // January
    if (monthNumber == 0)
        return (31);

    // February
    if (monthNumber == 1)
    {
        // If the year is leap then February has
        // 29 days
        if (year % 400 == 0 || (year % 4 == 0 && year % 100 != 0))
            return (29);
        else
            return (28);
    }

    // March
    if (monthNumber == 2)
        return (31);

    // April
    if (monthNumber == 3)
        return (30);

    // May
    if (monthNumber == 4)
        return (31);

    // June
    if (monthNumber == 5)
        return (30);

    // July
    if (monthNumber == 6)
        return (31);

    // August
    if (monthNumber == 7)
        return (31);

    // September
    if (monthNumber == 8)
        return (30);
```

```

// October
if (monthNumber == 9)
    return (31);

// November
if (monthNumber == 10)
    return (30);

// December
if (monthNumber == 11)
    return (31);
}

// Function to print the calendar of the given year
void printCalendar(int year)
{
    printf ("                Calendar - %d\n\n", year);
    int days;

    // Index of the day from 0 to 6
    int current = dayNumber (1, 1, year);

    // i —> Iterate through all the months
    // j —> Iterate through all the days of the
    // month - i
    for (int i = 0; i < 12; i++)
    {
        days = numberOfDays (i, year);

        // Print the current month name
        printf("\n ----- %s ----- \n", getMonthName (i).c_str());

        // Print the columns
        printf("  Sun  Mon  Tue  Wed  Thu  Fri  Sat  \n");

        // Print appropriate spaces
        int k;
        for (k = 0; k < current; k++)
            printf("      ");

        for (int j = 1; j <= days; j++)
        {
            printf("%5d", j);

            if (++k > 6)
            {
                k = 0;
                printf("\n");
            }

            if (k)
                printf("\n");

            current = k;
        }

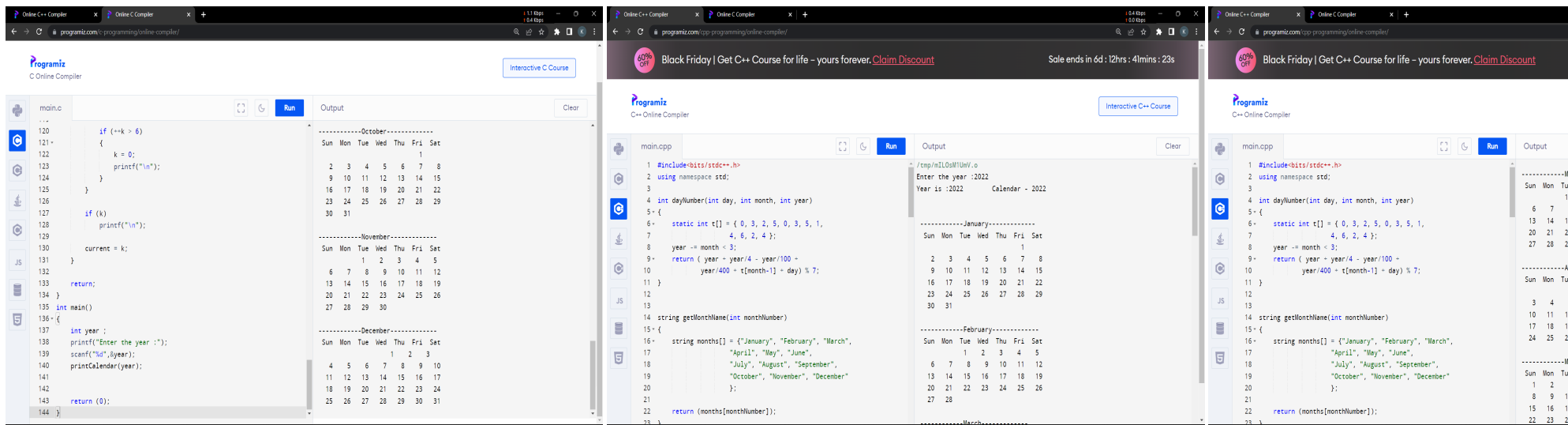
        return;
    }

}

// Driver Program to check above functions
int main()
{
    int year ;
    cout << "Enter the year :";
    cin >> year;
    cout << "Year is : "<< year;
    printCalendar(year);

    return (0);
}

```



```
//CODE IN C
#include <stdio.h>
```

```
int dayNumber(int day, int month, int year)
{
    int t[] = { 0, 3, 2, 5, 0, 3, 5, 1, 4, 6, 2, 4 };
    year -= month < 3;
    return ( year + year/4 - year/100 +year/400 + t[month-1] + day) % 7;
}
```

```
char *months[] = {"January", "February", "March","April", "May", "June","July", "August",
                 "September","October", "November", "December"};
```

```
void getMonthName(int monthNumber)
{
    char *month[] = {"1", "2", "3", "4", "5", "6", "7", "8", "9", "10", "11", "12"};

    return (month[monthNumber]);
}
```

```
int numberOfDays (int monthNumber, int year)
{
    // January
    if (monthNumber == 0)
        return (31);

    // February
    if (monthNumber == 1)
    {
        // If the year is leap then February has
        // 29 days
        if (year % 400 == 0 ||
            (year % 4 == 0 && year % 100 != 0))
            return (29);
        else
            return (28);
    }

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    if (monthNumber == 2)
        return (31);

    // April
    if (monthNumber == 3)
        return (30);

    // May
    if (monthNumber == 4)
        return (31);

    // June
    if (monthNumber == 5)
        return (30);

    // July
    if (monthNumber == 6)
        return (31);

    // August
    if (monthNumber == 7)
        return (31);

    // September
    if (monthNumber == 8)
        return (30);
```

```

// October
if (monthNumber == 9)
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}

// Function to print the calendar of the given year
void printCalendar(int year)
{
    printf ("                Calendar – %d\n\n", year);
    int days;

    // Index of the day from 0 to 6
    int current = dayNumber (1, 1, year);

    // i —> Iterate through all the months
    // j —> Iterate through all the days of the
    //      month – i
    for (int i = 0; i < 12; i++)
    {
        days = numberOfDays (i, year);

        // Print the current month name
        printf("\n _____%s_____ \n",
            months[i]);

        // Print the columns
        printf("  Sun  Mon  Tue  Wed  Thu  Fri  Sat  \n");

        // Print appropriate spaces
        int k;
        for (k = 0; k < current; k++)
            printf("          ");

        for (int j = 1; j <= days; j++)
        {
            printf("%5d", j);

            if (++k > 6)
            {
                k = 0;
                printf("\n");
            }

            if (k)
                printf("\n");

            current = k;
        }

        return;
    }
}

int main()
{
    int year ;
    printf("Enter the year :");
    scanf("%d",&year);
    printCalendar(year);

    return (0);
}

```

3 code output

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main.cpp

```
1 #include<bits/stdc++.h>
2 using namespace std;
3
4 int dayNumber(int day, int month, int year)
5 {
6     static int t[] = { 0, 3, 2, 5, 0, 3, 5, 1,
7                       4, 6, 2, 4 };
8     year -= month < 3;
9     return ( year + year/4 - year/100 +
10            year/400 + t[month-1] + day) % 7;
11 }
12
13 string getMonthName(int monthNumber)
14 {
15     string months[] = { "January", "February", "March",
16                         "April", "May", "June",
17                         "July", "August", "September",
18                         "October", "November", "December"
19                     };
20     return months[monthNumber];
21 }
22
23
```

Output

```
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
```

Clear

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13 string getMonthName(int monthNumber)
14 {
15     string months[] = { "January", "February", "March",
16                         "April", "May", "June",
17                         "July", "August", "September",
18                         "October", "November", "December"
19                     };
20     return months[monthNumber];
21 }
22
23
```

Output

```
-----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
23 24 25 26 27 28 29
```

Clear

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13 string getMonthName(int monthNumber)
14 {
15     string months[] = { "January", "February", "March",
16                         "April", "May", "June",
17                         "July", "August", "September",
18                         "October", "November", "December"
19                     };
20     return months[monthNumber];
21 }
22
23 int numberofDays (int monthNumber, int year)
24 {
25
26
```

Output

```
-----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
```

Clear