

**PRN-**

**B24IT1050**

**B24IT1006**

**B24IT1046**

**B24IT1058**

## **DEPARTMENT CALENDAR CODE:**

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#define MAX_APPOINTMENTS 10
typedef struct {
    int day;
    int month;
    int year;
    char description[100];
} Appointment;

Appointment appointments[MAX_APPOINTMENTS];
int appointmentCount = 0;

void displayCalendar(int month, int year);
void addAppointment();
void viewAppointments(int day, int month, int year);
int isLeapYear(int year);
int getDayOfWeek(int day, int month, int year);
void viewMainMenu();
void displayWelcomeBox();
```

```
int main() {  
  
    int choice;  
  
    // Display the welcome screen  
    displayWelcomeBox();  
  
    while (1) {  
        viewMainMenu();  
  
        printf("Enter your choice: ");  
        scanf("%d", &choice);  
  
        switch (choice) {  
            case 1: {  
                int month, year;  
                printf("Enter month (1-12): ");  
                scanf("%d", &month);  
                printf("Enter year: ");  
                scanf("%d", &year);  
                displayCalendar(month, year);  
                break;  
            }  
            case 2: {  
                addAppointment();  
                break;  
            }  
            case 3: {  
                int day, month, year;  
                printf("Enter the day (1-31): ");  
                scanf("%d", &day);  
                printf("Enter month (1-12): ");  
                scanf("%d", &month);
```

```

        printf("Enter year: ");

        scanf("%d", &year);

        viewAppointments(day, month, year);

        break;
    }

    case 4:

        printf("Exiting the system...\n");

        exit(0);

    default:

        printf("Invalid choice, please try again.\n");

    }

}

return 0;

}

void displayWelcomeBox() {

    printf("=====\n");

    printf("|                |\n");

    printf("|    WELCOME TO DEPARTMENT    |\n");

    printf("|    CALENDAR SYSTEM        |\n");

    printf("|                |\n");

    printf("=====\n\n");

}

void viewMainMenu() {

    printf("=====\n");

    printf("|    MAIN MENU        |\n");

    printf("|-----|\n");

    printf("| 1. Display Calendar    |\n");

    printf("| 2. Add Appointment     |\n");

```

```

printf("| 3. View Appointments for a Day      |\n");
printf("| 4. Exit                               |\n");
printf("===== \n");
}

void displayCalendar(int month, int year) {
    int daysInMonth[] = { 31, (isLeapYear(year) ? 29 : 28), 31, 30, 31, 30, 31, 31, 30, 31, 30, 31 };
    int startDay = getDayOfWeek(1, month, year);

    printf("\n===== \n");
    printf(" Calendar for %d/%d \n", month, year);
    printf("===== \n");
    printf("Sun Mon Tue Wed Thu Fri Sat \n");

    // Print leading spaces for the first week
    for (int i = 0; i < startDay; i++) {
        printf("  ");
    }

    // Print the days of the month
    for (int day = 1; day <= daysInMonth[month - 1]; day++) {
        printf("%3d ", day);
        if ((startDay + day) % 7 == 0) {
            printf("\n");
        }
    }
    printf("\n===== \n");
}

int isLeapYear(int year) {
    return (year % 4 == 0 && (year % 100 != 0 || year % 400 == 0));
}

```

```
}
```

```
int getDayOfWeek(int day, int month, int year) {
```

```
    struct tm timeStruct = { 0 };
```

```
    timeStruct.tm_year = year - 1900;
```

```
    timeStruct.tm_mon = month - 1;
```

```
    timeStruct.tm_mday = day;
```

```
    mktime(&timeStruct);
```

```
    return timeStruct.tm_wday;
```

```
}
```

```
void addAppointment() {
```

```
    if (appointmentCount >= MAX_APPOINTMENTS) {
```

```
        printf("Max appointment limit reached.\n");
```

```
        return;
```

```
    }
```

```
    Appointment newAppointment;
```

```
    printf("Enter appointment day (1-31): ");
```

```
    scanf("%d", &newAppointment.day);
```

```
    printf("Enter month (1-12): ");
```

```
    scanf("%d", &newAppointment.month);
```

```
    printf("Enter year: ");
```

```
    scanf("%d", &newAppointment.year);
```

```
    getchar(); // Clear newline character from input buffer
```

```
    printf("Enter appointment description: ");
```

```
    fgets(newAppointment.description, sizeof(newAppointment.description), stdin);
```

```
    newAppointment.description[strcspn(newAppointment.description, "\n")] = 0;
```

```
    // Add the appointment to the array
```

```

    appointments[appointmentCount] = newAppointment;
    appointmentCount++;

    printf("Appointment added successfully.\n");
}

void viewAppointments(int day, int month, int year) {
    printf("\nAppointments for %d/%d/%d:\n", day, month, year);
    int found = 0;
    for (int i = 0; i < appointmentCount; i++) {
        if (appointments[i].day == day && appointments[i].month == month && appointments[i].year ==
year) {
            printf("Description: %s\n", appointments[i].description);
            found = 1;
        }
    }
    if (!found) {
        printf("No appointments found for this day.\n");
    }
}

```

#### OUTPUT:

```

=====
|                               |
|  WELCOME TO DEPARTMENT      |
|  CALENDAR SYSTEM           |
|                               |
=====

=====
|  MAIN MENU                  |
|-----|

```

- | 1. Display Calendar |
- | 2. Add Appointment |
- | 3. View Appointments for a Day |
- | 4. Exit |

=====

Enter your choice: 18 ? ?

Enter month (1-12): 06

Enter year: 200? ?24

=====

Calendar for 6/2024

=====

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

=====

=====

- | MAIN MENU |
- |-----|
- | 1. Display Calendar |
- | 2. Add Appointment |
- | 3. View Appointments for a Day |
- | 4. Exit |

=====

Enter your choice: 2

Enter appointment day (1-31): 18

Enter month (1-12): 06

Enter year: 2024

Enter appointment description: admission

Appointment added successfully.

=====

```
|      MAIN MENU      |
|-----|
| 1. Display Calendar  |
| 2. Add Appointment   |
| 3. View Appointments for a Day |
| 4. Exit              |
```

=====

Enter your choice: 3

Enter the day (1-31): 18

Enter month (1-12): 6

Enter year: 2024

Appointments for 18/6/2024:

Description: admission

=====

```
|      MAIN MENU      |
|-----|
| 1. Display Calendar  |
| 2. Add Appointment   |
| 3. View Appointments for a Day |
| 4. Exit              |
```

=====

Enter your choice: 4

Exiting the system...