

lab02

```
$ gcc lab02.c
```

```
$ ./a.out
```

```
Enter a date (y/m/d): 2021/10/18
```

```
Total Gregorian Calender days: 738081
```

```
Total Gregorian Calendar days: 738081
```

```
Day of year: 291
```

```
Day of week: Monday
```

```
$ ./a.out
```

```
Enter a date (y/m/d): 2020/1/1
```

```
Total Gregorian Calender days: 737425
```

```
Total Gregorian Calendar days: 737425
```

```
Day of year: 1
```

```
Day of week: Wednesday
```

```
$ ./a.out
```

```
Enter a date (y/m/d): 2020/2/29
```

```
Total Gregorian Calender days: 737484
```

```
Total Gregorian Calendar days: 737484
```

```
Day of year: 60
```

```
Day of week: Saturday
```

```
$ ./a.out
```

```
Enter a date (y/m/d): 2020/3/1
```

```
Total Gregorian Calender days: 737485
```

```
Total Gregorian Calendar days: 737485
```

```
Day of year: 61
```

```
Day of week: Sunday
```

```
$ ./a.out
```

```
Enter a date (y/m/d): 2020/12/31
```

```
Total Gregorian Calender days: 737790
```

```
Total Gregorian Calendar days: 737790
```

```
Day of year: 366
```

```
Day of week: Thursday
```

score: 60.0

- o. [Output] Program output format is incorrect.
- o. [Coding] lab02.c spelling errors: input(1), inputs(1)
- o. [Format] Program format can be improved.

lab02.c

```
1 // EE231002 Lab02. Day of the Year and Day of the week
2 // 110060007, 黃俊穎
3 // Oct. 18, 2021
4
5 #include<stdio.h>           // I/O library
   #include <stdio.h>       // I/O library
6
7 int main(void)             // the main function
8 {
9     int year, month, day;   // variables to store the inputs
   int year, month, day;     // variables to store the inputs
10    int totalDays, dayOfYear, dayOfWeek; // variables to calculate the answer
   int totalDays, dayOfYear, dayOfWeek; // variables to calculate the answer
r
11
12    printf("Enter a date (y/m/d): "); // prompt for date
   printf("Enter a date (y/m/d): "); // prompt for date
13    scanf("%d/%d/%d", &year, &month, &day); // read the input
   scanf("%d/%d/%d", &year, &month, &day); // read the input
14
15
16                                // start calculating dayOfYear first
17    dayOfYear=day;              // the days passed this month
   dayOfYear = day;            // the days passed this month
18    switch(month){
   switch (month) {
19                                // start calculating the days of each month passed
20    case 12: dayOfYear += 30;    // add the days in Nov.
   case 12: dayOfYear += 30;    // add the days in Nov.
21    case 11: dayOfYear += 31;    // add the days in Oct.
   case 11: dayOfYear += 31;    // add the days in Oct.
22    case 10: dayOfYear += 30;    // add the days in Sep.
   case 10: dayOfYear += 30;    // add the days in Sep.
23    case 9:  dayOfYear += 31;    // add the days in Aug.
   case 9:  dayOfYear += 31;    // add the days in Aug.
24    case 8:  dayOfYear += 31;    // add the days in Jul.
   case 8:  dayOfYear += 31;    // add the days in Jul.
25    case 7:  dayOfYear += 30;    // add the days in Jun.
   case 7:  dayOfYear += 30;    // add the days in Jun.
26    case 6:  dayOfYear += 31;    // add the days in May.
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    case 6:  dayOfYear += 31;    // add the days in May.
27 case 5:  dayOfYear += 30;    // add the days in Apr.
    case 5:  dayOfYear += 30;    // add the days in Apr.
28 case 4:  dayOfYear += 31;    // add the days in Mar.
    case 4:  dayOfYear += 31;    // add the days in Mar.
29 case 3:  dayOfYear += 28;    // add the days in normal year's Feb.
    case 3:  dayOfYear += 28;    // add the days in normal year's Feb.
30     if(0 == year % 4 && 0 != year % 100 || 0 == year % 400){
        if (0 == year % 4 && 0 != year % 100 || 0 == year % 400) {
31             // check if that year is leap year
32             dayOfYear += 1;    // plus the additional day in Feb.
                dayOfYear += 1;    // plus the additional day in Feb.
33         }
            }
34 case 2:  dayOfYear +=31;    // add the days in Jan.
    case 2:  dayOfYear += 31;    // add the days in Jan.
35 }
    }
36
37     // finish calculating the days of each month passed
38
39
40
41     // start calculating totalDays from 1/1/1
42 year--;    // neglect the latest year's days
    year--;    // neglect the latest year's days
43 totalDays = year * 365;    // every year has at least 365 days
    totalDays = year * 365;    // every year has at least 365 days
44 totalDays += year / 4;    // leap year happens every 4 years
    totalDays += year / 4;    // leap year happens every 4 years
45 totalDays -= year / 100;    // minus the day(2/29) every 100 years
    totalDays -= year / 100;    // minus the day(2/29) every 100 years
46 totalDays += year / 400;    // add the day (2/29) every 400 years
    totalDays += year / 400;    // add the day (2/29) every 400 years
47 totalDays += dayOfYear;    // add the days this year
    totalDays += dayOfYear;    // add the days this year
48
49 printf("Total Gregorian Calender days: %d\n", totalDays);
    printf("Total Gregorian Calender days: %d\n", totalDays);
50     // print out the totalDays
51 printf("Day of year: %d\n", dayOfYear); // print out the day of year

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52     printf("Day of year: %d\n", dayOfYear); // print out the day of year
53         // finish calculating totalDays from 1/1/1
54
55
56         // start calculating the day of the week
57     dayOfWeek = totalDays % 7; // mod 7 to indicate the day if the week
58     dayOfWeek = totalDays % 7; // mod 7 to indicate the day if the week
59     printf("Day of week: ");
60     printf("Day of week: ");
61         // start printing out the day of week
62
63     switch(dayOfWeek){ // analyze the reminder
64         switch (dayOfWeek) { // analyze the reminder
65             case 0: printf("Sunday"); break; // 0 is Sunday
66             case 0: printf("Sunday"); break; // 0 is Sunday
67             case 1: printf("Monday"); break; // 1 is Monday
68             case 1: printf("Monday"); break; // 1 is Monday
69             case 2: printf("Tuesday"); break; // 2 is Tuesday
70             case 2: printf("Tuesday"); break; // 2 is Tuesday
71             case 3: printf("Wednesday"); break; // 3 is Wednesday
72             case 3: printf("Wednesday"); break; // 3 is Wednesday
73             case 4: printf("Thursday"); break; // 4 is Thursday
74             case 4: printf("Thursday"); break; // 4 is Thursday
75             case 5: printf("Friday"); break; // 5 is Friday
76             case 5: printf("Friday"); break; // 5 is Friday
77             case 6: printf("Saturday"); break; // 6 is Saturday
78             case 6: printf("Saturday"); break; // 6 is Saturday
79         }
80     }
81     printf("\n"); // change the next line
82     printf("\n"); // change the next line
83     // finish calculating the day of the week
84
85     return 0; // finish the whole main program
86     return 0; // finish the whole main program
87 }
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