Programming Practice: Calendars

1. Write a C program to input a month, a day, a weekday and then output a monthly calendar of the specified month, day, and weekday. The program must check correctness of the input values of month, day, and weekday. Assume non-leap years. Solutions: calendar of month.c.

```
:\>calendar_of_month
>>> Enter a month (0 to quit): 13
***Error: 13 is not a valid month.
>>> Enter a month (0 to quit): 11
>>> Enter a day (between 1 and 30): 18
 Sunday 1: Monday 2: Tuesday 3: Wednesday
Thursday 5: Friday 6: Saturday
>>> Enter a weekday (between 0 and 6): 5
  November
  Sun Mon Tue Wed Thu Fri Sat
>>> Enter a month (0 to quit): 2
>>> Enter a day (between 1 and 28): 5
 Sunday 1: Monday 2: Tuesday 3: Wednesday
Thursday 5: Friday 6: Saturday
 >> Enter a weekday (between 0 and 6): 0
  February
  5 6 7 8 9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28
  Sun Mon Tue Wed Thu Fri Sat
>>> Enter a month (0 to quit): 7
           1: Monday 2: Tuesday 3: Wednesday
 Sunday
 Thursday 5: Friday 6: Saturday
>> Enter a weekday (between 0 and 6): 3
  Sun Mon Tue Wed Thu Fri Sat
>>> Enter a month (0 to quit): 0
```

- 2. Write a C program to perform the following operations:
 - a. Enter a year between 1901 and 2060.
 - b. Print calendar of that year.

The program may use a reference date to compute the dates of calendar. For example, a reference date is Saturday, January 1, 2022. Consider leap years.

Solutions: calendar of year.c. Sample output of year 1988:

```
\>calendar_of_year
>>>Enter the year of calendar: 1988
Calendar of the Year of 1988
   January
   Sun Mon Tue Wed Thu Fri Sat
            12
    17
                             23
            26
                        29
                             30
    24
   February
   Sun Mon Tue Wed Thu Fri Sat
    14
  March
  Sun Mon Tue Wed Thu Fri Sat
                             26
    27
  April
  Sun Mon Tue Wed Thu Fri Sat
                              2
                20
                             23
                        29
    24
                    28
   Sun Mon Tue Wed Thu Fri Sat
    22
                             28
    29
   Sun Mon Tue Wed Thu Fri Sat
    26
                29
```

```
Sun Mon Tue Wed Thu Fri Sat
Sun Mon Tue Wed Thu Fri Sat
September
Sun Mon Tue Wed Thu Fri Sat
October
Sun Mon Tue Wed Thu Fri Sat
November
Sun Mon Tue Wed Thu Fri Sat
20 21 22
27 28 29
December
Sun Mon Tue Wed Thu Fri Sat
         13
20
27
                           17
24
```

Sample output of year 2016:

```
:\>calendar_of_year
>>>Enter the year of calendar: 2016
                                                   Sun Mon Tue Wed Thu Fri Sat
Calendar of the Year of 2016
   Sun Mon Tue Wed Thu Fri Sat
                                                   Sun Mon Tue Wed Thu Fri Sat
   February
   Sun Mon Tue Wed Thu Fri Sat
                                                   September
                                                  Sun Mon Tue Wed Thu Fri Sat
   March
   Sun Mon Tue Wed Thu Fri Sat
                                                                            24
                        4
                                                  October
                                                  Sun Mon Tue Wed Thu Fri Sat
   April
   Sun Mon Tue Wed Thu Fri Sat
                                                                            29
                                                  November
                                                   Sun Mon Tue Wed Thu Fri Sat
   May
   Sun Mon Tue Wed Thu Fri Sat
                            14
                                                  December
   June
                                                  Sun Mon Tue Wed Thu Fri Sat
   Sun Mon Tue Wed Thu Fri Sat
    26 27 28 29
```

Sample output of year 2030:

```
:\>calendar of year
>>>Enter the year of calendar: 2030
Calendar of the Year of 2030
   January
   Sun Mon Tue Wed Thu Fri Sat
                            12
    13 14
                            19
                    24
                             26
   February
   Sun Mon Tue Wed Thu Fri Sat
                              2
         4
                    14
                        22
    24
   March
   Sun Mon Tue Wed Thu Fri Sat
                              2
         4
            12
    24
   April
   Sun Mon Tue Wed Thu Fri Sat
                       12
                            13
                             20
                24
    28
  May
  Sun Mon Tue Wed Thu Fri Sat
    12
                22
                        24
                29
    26
            28
   June
   Sun Mon Tue Wed Thu Fri Sat
           11 12
                    13 14
                            15
                            22
        17
                            29
    23
        24
            25
                        28
```

```
July
Sun Mon Tue Wed Thu Fri Sat
                         13
 14
     15
                         20
 28
August
Sun Mon Tue Wed Thu Fri Sat
                         17
                         24
September
Sun Mon Tue Wed Thu Fri Sat
                 12
                     13
                         14
 15
         24 25 26 27
 29
October
Sun Mon Tue Wed Thu Fri Sat
     14
             23 24
 20
                         26
 27
November
Sun Mon Tue Wed Thu Fri Sat
         12
                 14
 24 25
                    29
December
Sun Mon Tue Wed Thu Fri Sat
                12 13
                         14
         24
                         28
```