CT-4(MINI-PROJECT)

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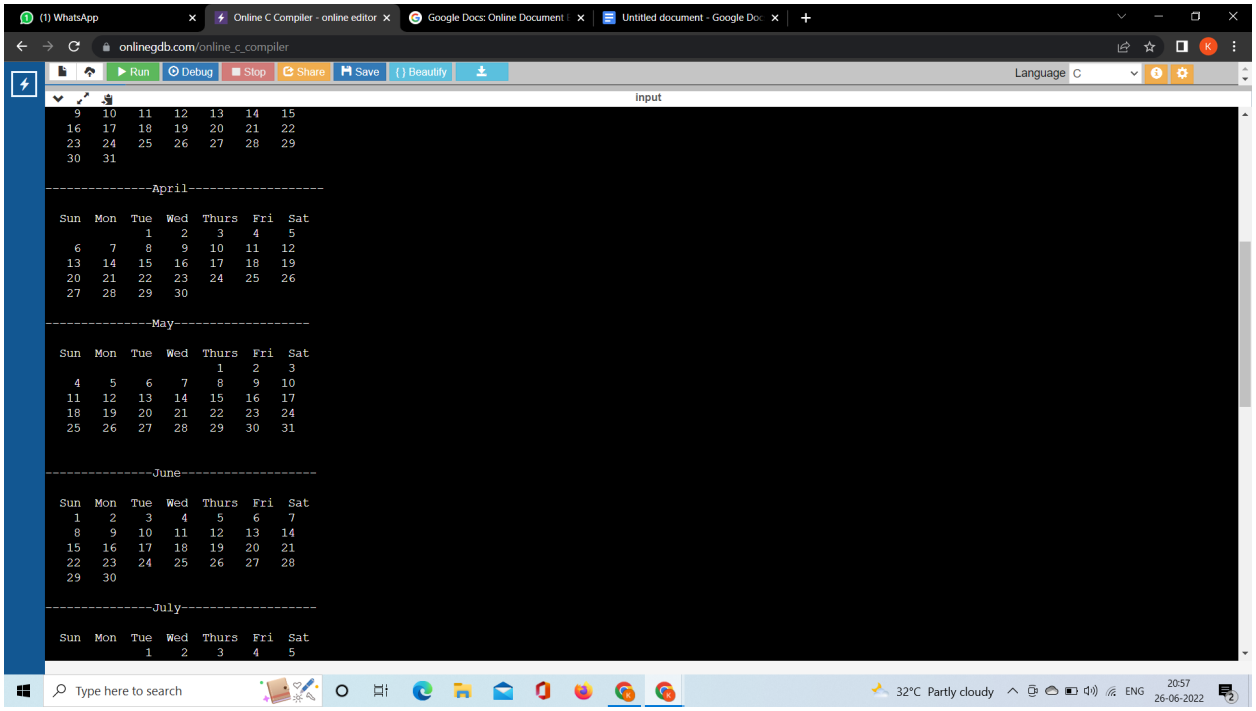
PROJECT- CALENDAR

SOURCE CODE

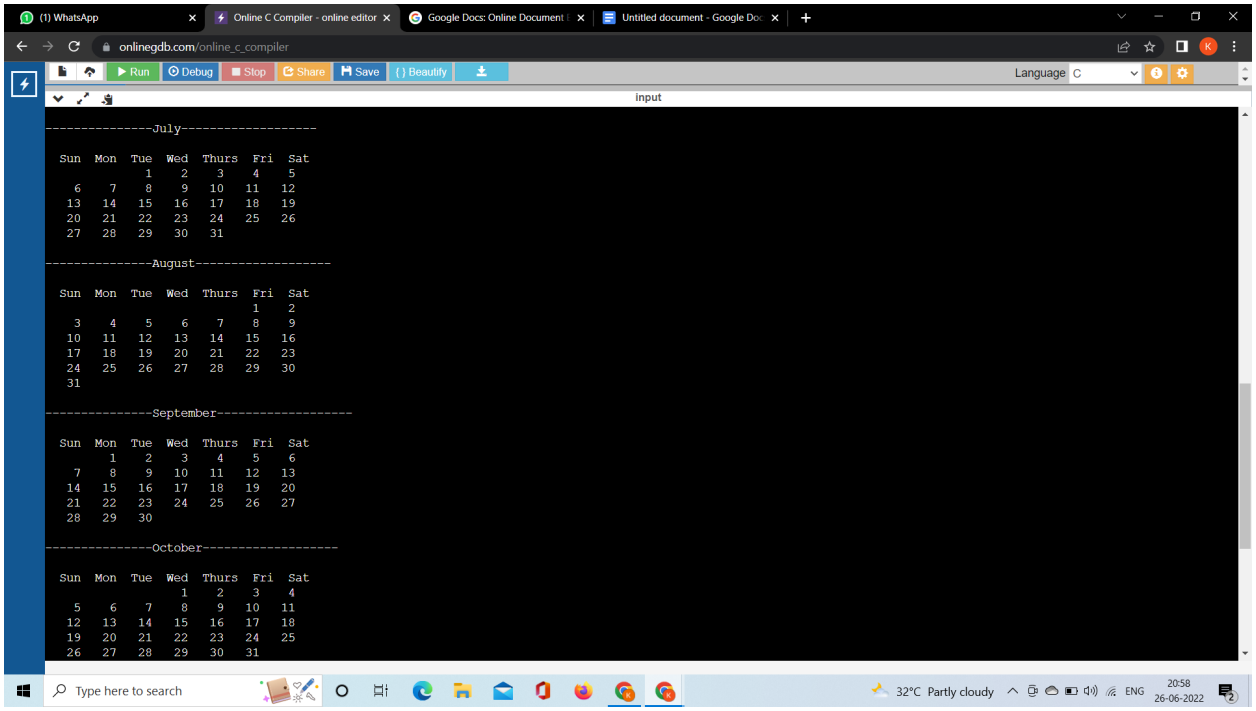
```
#include <stdio.h>
#include <stdlib.h>
int get_1st_weekday(int year)
{
  int d;
  //using Zeller's Algorithm
  d = (((year - 1) * 365) + ((year - 1) / 4) - ((year - 1) / 100) + ((year) / 400) + 1) % 7;
  return d;
}
int main()
{
   int year,month,day,daysInMonth,weekDay=0,startingDay;
   printf("\nEnter your desired year: ");
   scanf("%d",&year);

   char
*months[]={"January","February","March","April","May","June","July","August","September","Oct
ober","November","December"};
   int monthDay[]={31,28,31,30,31,30,31,31,30,31,30,31};

   if((year%4==0&&year%100!=0)||year%400==0)
       monthDay[1]=29;
   startingDay=get_1st_weekday(year);
   for(month=0;month<12;month++)
   {
      daysInMonth=monthDay[month];
      printf("\n\n----------%s----------\n",months[month]);
      printf("\n  Sun  Mon  Tue  Wed  Thurs  Fri  Sat\n");
```

```
    for(weekDay=0;weekDay<startingDay;weekDay++)
      printf("     ");
    for(day=1;day<=daysInMonth; day++)
    {
      printf("%5d",day);
      if(++weekDay>6)
      {
          printf("\n");
          weekDay=0;
    }
      startingDay=weekDay;
    }
  }
}
```

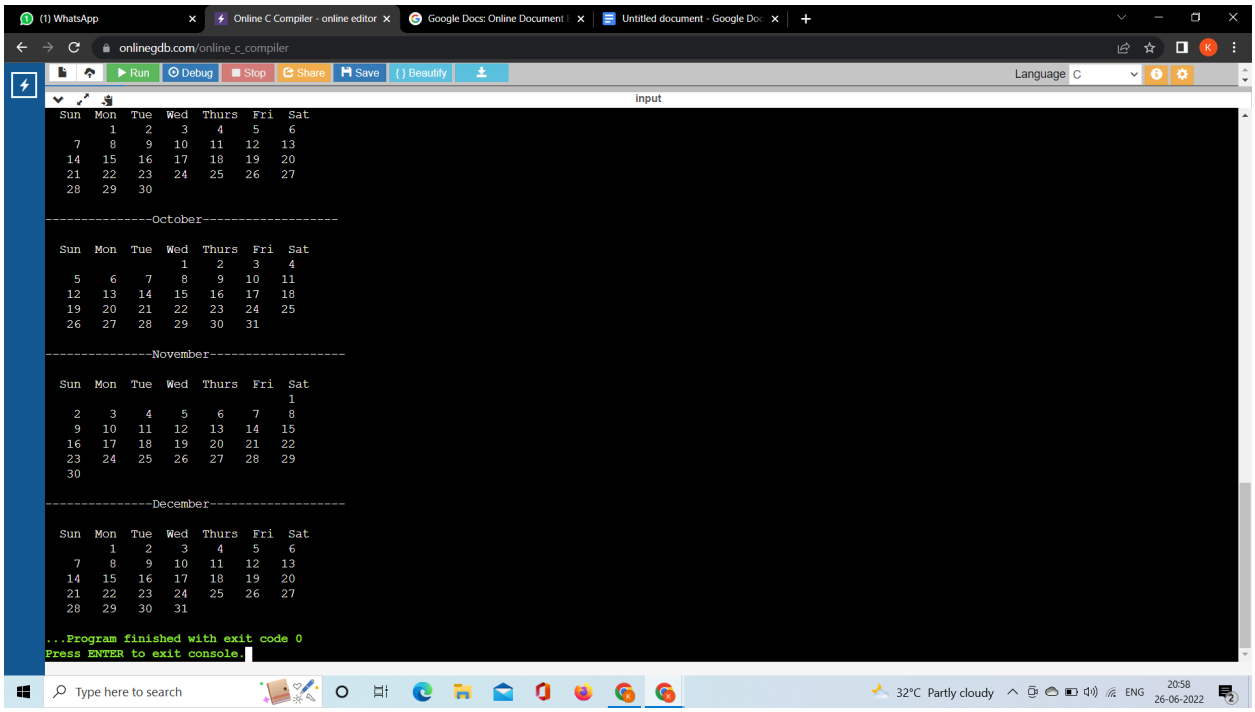
IMPLEMENTATION-



```
  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  Thurs  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  Thurs  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  Thurs  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  Thurs  Fri  Sat
            1    2    3    4    5
```



```
--------------July--------------------

 Sun  Mon  Tue  Wed  Thurs  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  Thurs  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  Thurs  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  Thurs  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
```



EXPLANATION-

This program is used to print the 12 -month calendar or the desired calendar using zeller's algorithm

ZELLER'S ALGORITHM

d = (year - 1) * 365) + ((year - 1) / 4) - ((year - 1) / 100) + ((year) / 400) + 1) % 7

Zeller's congruence is an algorithm devised by Christian Zeller to **calculate the day of the week for any Julian or Gregorian calendar date**. It can be considered to be based on the conversion between Julian day and the calendar date.

It is an algorithm to find the day of the week for any date.