Program 1

(Month of Given Year)

Write a Program to accept the year, month and the weekday of the 1st day of that Month and generate its calendar.

EXAMPLE:

INPUT:

Year: 2016

Month: February

1st day of February:

OUTPUT:

      February 2016

SUN MON TUES 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

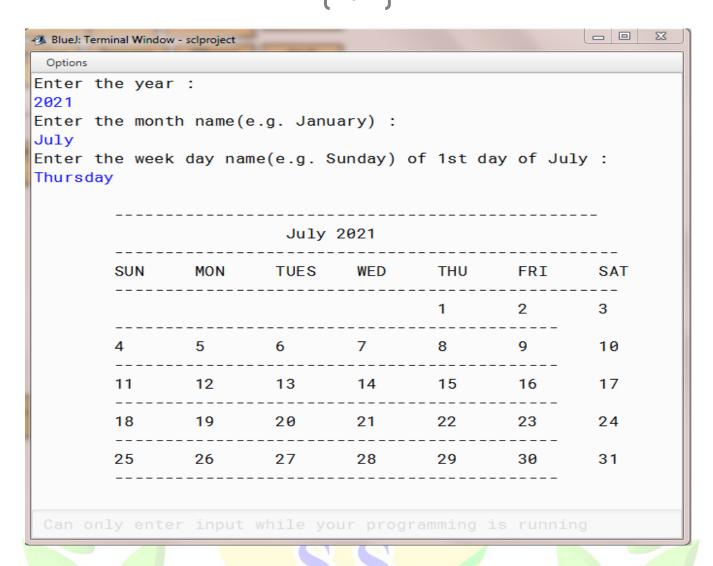---

Solution:

```java
import java.util.*;
class CalendarProgram
{
    //Function to match the given month and return its maximum days
    int findmaxdays(String mname,int y)
    {
        String
month[]={"","January","February","March","April","May","June","July","August","September","October","November","December"};
        int d[]={0,31,28,31,30,31,30,31,31,30,31,30,31};
        if((y%400==0)||((y%100!=0)&&(y%4==0)))
        {
            d[2]=29;
        }
        int max=0;
        for(int i=1;i<=12;i++)
        {
            if(mname.equalsIgnoreCase(month[i]))
            {
                max=d[i]; //Saving maximum days of given month
            }
        }
        return max;
    }
    //Function to match the given weekday name and return its weekday number
    int findDayno(String wname)
    {
        String days[]={"Sunday","Monday","Tuesday","Wednesday","Thursday","Friday","Saturday"};
        int f=0;
        for(int i=0;i<7;i++)
        {
            if(wname.equalsIgnoreCase(days[i]))
            {
                f=i;
            }
        }
        return f;
    }
    //Function for creating the calendar
    void fillCalendar(int max,int f,String mname,int y)
    {
        int a[][]=new int[6][7];
        int x=1,z=f;
        for(int i=0;i<6;i++)
        {
            for(int j=f;j<7;j++)
            {
                if(x<=max)
                {
```

```
            a[i][j]=x;
            x++;
         }
      }
      f=0;
   }
   for(int j=0;j<z;j++)//Adjustment to bring last(6th) row element to first row
   {
      a[0][j]=a[5][j];
   }
   printCalendar(a, mname, y);//Calling function to print the calendar
}
//function for Printing the calendar
void printCalendar(int A[][],String mname,int y)
{
   System.out.println("\n\t-------------------------------------------------");
   System.out.println("\t\t\t "+mname+" "+y);
   System.out.println("\t-------------------------------------------------");
   System.out.println("\tSUN\tMON\tTUES\tWED\tTHU\tFRI\tSAT");
   System.out.println("\t-------------------------------------------------");
   for(int i=0;i<5;i++)
   {
      for(int j=0;j<7;j++)
      {
         if(A[i][j]!=0)
         System.out.print("\t"+A[i][j]);
         else
         System.out.print("\t");
      }
      System.out.println("\n\t-------------------------------------------------");
   }
}
public static void main(String args[])
{
   CalendarProgram ob=new CalendarProgram();
   Scanner sc=new Scanner(System.in);
   System.out.print("Enter the year : ");
   int y=sc.nextInt();
   System.out.println("Enter the month name(e.g. January) : ");
   String mname=sc.next();
   System.out.println("Enter the week day name(e.g. Sunday) of 1st day of "+mname+" : ");
   String wname = sc.next();
   int max=ob.findmaxdays(mname,y);
   int f =ob.findDayno(wname);
   ob.fillCalendar(max,f,mname,y);
}
}
```

Output:

```
BlueJ: Terminal Window - sclproject                              _  □  ⫶

Options

Enter the year :
2021
Enter the month name(e.g. January) :
July
Enter the week day name(e.g. Sunday) of 1st day of July :
Thursday


        ------------------------------------------------
                        July 2021
        ------------------------------------------------
        SUN     MON     TUES    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
        ------------------------------------------

Can only enter input while your programming is running
```

Variable Description Table

Variable	Datatype	Purpose
mname	String	Month name
month[]	String	Array of year
wname[]	String	Weekday name
days[]	String	Array of weekdays
y	int	No of days of mname
d[]	int	Array of days of year
max	int	Maximum day
i	int	Loop variable
f	int	To store i
z	int	To store f
x	int	To store matrix in a[][]
a[][]	int	Store month