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// CSCI 201
// 2/13/2020
// Section 2
// 2.1
// ~/CSCI201/HOMEWORK/Homework2/DayOfTheWeek.a
// This program will find what day of the week it is when given the month,
 day, and year

#include <iostream>

using namespace std;

namespace MonthToNumber // setting namespace to not pollute global namespace
{
    enum MonthToNumber
    {
        January = 1,
        Febuary,
        March,
        April,
        May,
        June,
        July,
        August,
        September,
        October,
        November,
        December
    }; // closign enum bracket
}

namespace DaysInMonth // setting namespace to not pollute global namespace
{
    enum DaysInMonth
    {
        January = 31,
        Febuary = 28,
        FebuaryLeap = 29,
        March = 31,
        April = 30,
        May = 31,
        June = 30,
        July = 31,
        August = 31,
        September = 30,
        October = 31,
        November = 30,
        December = 31
    }; // closing enum bracket
}
```

```
namespace Weekdays // seting namespace to not pollute global namespcae
{
    enum Weekdays
    {
        Sunday,
        Monday,
        Tuesday,
        Wednesday,
        Thursday,
        Friday,
        Saturday
    }; // closing enum bracket
}


void driver(int preceding, int sum, int day, int month, int year, int weekday);

int main() {

    int preceding, sum, day, month, year, weekday;

    cout << "Please enter the current year: ";
    cin >> year;

    cout << "Please enter the month in number form: ";
    cin >> month;

    cout << "Please enter the day: ";
    cin >> day;



    preceding = ( (year - 1) * 365 + ( (year - 1) / 4 ) - ( (year - 1) / 100 )
     + ( (year - 1) / 400) ) % 7;
    switch (month) {

        case MonthToNumber::December:
            sum += DaysInMonth::November; // amount of days in november

        case MonthToNumber::November:
            sum += DaysInMonth::October; // amount of days in october

        case MonthToNumber::October:
            sum += DaysInMonth::September; // amount of days in september

        case  MonthToNumber::September:
            sum += DaysInMonth::August; // amount of days in august

        case  MonthToNumber::August:
            sum += DaysInMonth::July; // amount of days in july
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    case  MonthToNumber::July:
        sum += DaysInMonth::June; // amount of days in june

    case  MonthToNumber::June:
        sum += DaysInMonth::May; // amount of days in may

    case  MonthToNumber::May:
        sum += DaysInMonth::April; // amount of days in april

    case  MonthToNumber::April:
        sum += DaysInMonth::March; // amount of days in march

    case  MonthToNumber::March:
        if ( (year % 4 == 0 && year % 100 != 0) || year % 400 != 0) //
         calculates if it is a leap year
        {
            sum += DaysInMonth::FebuaryLeap; // amount of days in febuary
             for a leap year
        }

        else
        {
            sum += DaysInMonth::Febuary; // amount of days in febuary not
             for a leap year
        }

    case  MonthToNumber::Febuary:
        sum += DaysInMonth::January; // amount of days in january

    case  MonthToNumber::January:
        break;

    default: cout << "Something went wrong";

}

sum += day;
weekday = (sum % 7) + preceding;

switch (weekday)
{
    case Weekdays::Sunday:
        cout << "0: Sunday" << endl;
        break;
    case Weekdays::Monday:
        cout << "1: Monday" << endl;
        break;
    case Weekdays::Tuesday:
        cout << "2: Tuesday" << endl;
        break;
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        case Weekdays::Wednesday:
            cout << "3: Wednesday" << endl;
            break;
        case Weekdays::Thursday:
            cout << "4: Thursday" << endl;
            break;
        case Weekdays::Friday:
            cout << "5: Friday" << endl;
            break;
        case Weekdays::Saturday:
            cout << "6: Saturday" << endl;
            break;
    }

  // driver(preceding, sum, day, month, year, weekday); // made to check
   values that were used

    return 0;
}

void driver(int preceding, int sum, int day, int month, int year, int weekday)
 // made to check values that were used
{
    cout << "preceding = " << preceding << endl;
    cout << "sum       = " << sum << endl;
    cout << "day       = " << day << endl;
    cout << "month     = " << month << endl;
    cout << "year      = " << year << endl;
    cout << "weekday   = " << weekday << endl;
}
```