

## Algorithms Level 4



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**Mohammed Abu-Hadhoud**

MBA, PMOC, PgMP®, PMP®, PMI-RMP®, CM, ITIL®, MCPD, MCSD



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## Problem # 10/4 Solution Using C++

```
#include <iostream>
using namespace std;

bool isLeapYear(short Year)
{
    // if year is divisible by 4 AND not divisible by 100
    // OR if year is divisible by 400
    // then it is a leap year
    return (Year % 4 == 0 && Year % 100 != 0) || (Year % 400 ==
0);
}

short NumberOfDaysInAMonth(short Month, short Year)
{
    if (Month < 1 || Month>12)
        return 0;

    int days[12] = { 31,28,31,30,31,30,31,31,30,31,30,31 };
    return (Month == 2) ? (isLeapYear(Year) ? 29 : 28) :
days[Month - 1];
}

short NumberOfDaysFromTheBeginingOfTheYear(short Day, short Month,
short Year)
{
    short TotalDays = 0;

    for (int i = 1; i <= Month - 1; i++)
    {
        TotalDays += NumberOfDaysInAMonth(i, Year);
    }

    TotalDays += Day;

    return TotalDays;
}

short ReadDay()
{
    short Day;
    cout << "\nPlease enter a Day? ";
    cin >> Day;
    return Day;
}
```



## Problem # 10/4 Solution Using C++

```
short ReadMonth()
{
    short Month;
    cout << "\nPlease enter a Month? ";
    cin >> Month;
    return Month;
}

short ReadYear()
{
    short Year;
    cout << "\nPlease enter a Year? ";
    cin >> Year;
    return Year;
}

int main()
{
    short Day = ReadDay();
    short Month = ReadMonth();
    short Year = ReadYear();

    cout << "\nNumber of Days from the begining of the year is "
         << NumberOfDaysFromTheBeginingOfTheYear(Day, Month, Year);

    system("pause>0");
    return 0;
}
```