

# Project Euler #19: Counting Sundays

This problem is a programming version of [Problem 19](#) from [projecteuler.net](#)

You are given the following information, but you may prefer to do some research for yourself.

1 Jan 1900 was a Monday.  
Thirty days has September,  
April, June and November.  
All the rest have thirty-one,  
Saving February alone,  
Which has twenty-eight, rain or shine.  
And on leap years, twenty-nine.

A leap year occurs on any year evenly divisible by 4, but not on a century unless it is divisible by 400.

How many Sundays fell on the first of the month between two dates(both inclusive)?

## Input Format

The first line contains an integer  $T$ , i.e., number of test cases.

Each testcase will contain two lines

$Y_1 M_1 D_1$  on first line denoting starting date.

$Y_2 M_2 D_2$  on second line denoting ending date.

## Constraints

- $1 \leq T \leq 100$
- $1900 \leq Y_1 \leq 10^{16}$
- $Y_1 \leq Y_2 \leq (Y_1 + 1000)$
- $1 \leq M_1, M_2 \leq 12$
- $1 \leq D_1, D_2 \leq 31$

## Output Format

Print the values corresponding to each test case.

## Sample Input

```
2
1900 1 1
1910 1 1
2000 1 1
2020 1 1
```

## Sample Output

18  
35

## Explanation

For testcase 1, we have the following sundays :-

```
1 April 1900
1 July 1900
1 September 1901
1 December 1901
1 June 1902
1 February 1903
1 March 1903
1 November 1903
1 May 1904
1 January 1905
1 October 1905
1 April 1906
1 July 1906
1 September 1907
1 December 1907
1 March 1908
1 November 1908
1 August 1909
```