Problem

Calculate the number of days between two given dates, where each date is represented with three integers: day, year and month.

It is guaranteed that the given time interval is valid, i.e. the second date is after the first date in the calendar or coincides with it.

It is also guaranteed that the dates are valid, i.e. for `X` in `[1, 2]`:

`1 ≤ monthX ≤ 12`,
`1 ≤ dayX ≤ 31`,
`1 ≤ dayX ≤ 30` for `monthX` in `[2, 4, 6, 9, 11]`,
`1 ≤ dayX ≤ 29` for `monthX = 2`,
`1 ≤ dayX ≤ 28` for `monthX = 2` if `yearX` is not a leap-year
Note, that `year1` and `year2` can be negative.

Example

- For `day1 = 1`, `month1 = 1`, `year1 = 1` and

  `day2 = 12`, `month2 = 2`, `year2 = 1`,

  the output should be:

  `uShouldDate(day1, month1, year1, day2, month2, year2) = 42`.
- For `day1 = 1`, `month1 = 3`, `year1 = 3` and

  `day2 = 28`, `month2 = 10`, `year2 = 6`,

  the output should be:

  `uShouldDate(day1, month1, year1, day2, month2, year2) = 1337`.

Input/Output

- **[time limit] 3000ms (java)**
- **[input] integer day1**

  A valid day of the first date.
- **[input] integer month1**

  A valid month of the first date.
- **[input] integer year1**

  A valid year of the first date.

  Constraints:

  $-104 \le year1 \le year2$.
- **[input] integer day2**

  A valid day of the second date.
- **[input] integer month2**

  A valid month of the second date.
- **[input] integer year2**

  A valid year of the second date.

  Constraints:

  $year1 \le year2 \le 3 \cdot 106$.
- **[output] integer**

  The number of days between day1/month1/year1 and day2/month2/year2.

Solution 1: Java LocalDateTime class

Use the LocalDateTime class in Java and create 2 instances using the 2 provided dates.

Use the method “until” of that class to get the difference in days.

Solution 2: Algorithmic solution

Consider 3 cases:

1- Dates have the same year and same month

In this case return the difference between day2 and day1

2.- Dates have the same year but different months

In this case return the difference between total days that have passed until month2/day2 and the days that have passed until month1/day1 in that year

For this I made a helper method:

```
int getDaysOfYear(int year, int month, int day)
```

which returns the number of days that have passed from January 1 of that year until month/day of that year

And it considers Leap Years using a helper method:

```
boolean isLeapYear(int year)
```

This method is also used at case #3

3.- Dates have different years

3.1- Calculate the days that from year1/month1/day1 to the end of that year

3.2- Calculate the total days form the full years between year2 and year 1 (if any, that is if year2>year1+1)

3.3 Calculate the total days that have passed from January 1 of year2 until month2/day2/year2

3.4 Return the sum of those calculations