

BIRTH DAY

Zeller's Algorithm

Most of us remember our birthdays but not our birth day! Find the day on which you were born by following this algorithm. Let's say you were born on the 22 March 1984

1. Let Y equal the year of your birth	Eg: Y = 1984
2. Let D equal the day of the year you were born. To find D, add the number of days in all the months up to and including the month of your birth. February has 29 days in leap years.	1984 is a leap year $D = 31 + 29 + 22$ (Jan + Feb + Mar) $D = 82$
3. Find F using the formula given. Ignore any remainder and work only with the whole number.	$F = \frac{Y - 1}{4}$
4. Apply the formula for B. The remainder in the answer will give the number for your birth day.	$B = \frac{Y + D + F}{7}$
5. Use the remainder as follows: 0 = Friday, 1 = Saturday etc	Day 6 = Wednesday

Zeller's Congruence

Another way to calculate this is to use a formula called Zeller's Congruence. The formula is

$$\text{day} = ((\text{abs}(2.6m - 0.2) + k + y + (y \text{ div } 4) + (c \text{ div } 4) - 2c) \text{ mod } 7) + 1$$

The result will be a number in the range 1 to 7. Print out the day if Sunday = 1, Monday = 2, etc

The variables are:

- m = month. Take January as month 10, February and month 11, and March as month 1, etc. December will be 10.
- k = the day of the month
- c = the century (i.e. 20 in 2006)
- y = the year (i.e. the 06 in 2006)