# Lab 3.3 - Let Me Check My Calendar

In this lab, you will write custom blocks that take arguments and are useful for calculations involving dates and calendars.

## Part 1: Basics

1. Write a custom Snap! block called month name that takes a number between 1 and 12 as an argument and says the name of the corresponding month.
2. Write a custom Snap! block called day name that takes a number between 1 and 7 as an argument and says the name of the corresponding day. For our purposes, the week begins on Sunday.
3. Write a custom Snap! block called days in that takes a month name as an argument and says how many days are in that month. Assume a non-leap year.

## Part 2: Going Farther

1. Write a custom Snap! block called is a leap year that takes a year number as an argument and says whether or not that year is a leap year.
   * A year is a leap year if the year is a multiple of 4 that is not a multiple of 100 (e.g. 1984), or if it is a multiple of 400 (e.g. 2000). Years that are multiples of 100 but not multiples of 400 are NOT leap years (e.g. 1800). See [Wikipedia](https://en.wikipedia.org/wiki/Leap_year#Algorithm) for more detail.
2. Write a custom Snap! block called is a valid date that takes a month name and a date as arguments and says whether or not that date exists in that month. For example, the 31st is a valid date in January, but not in June. The 5th is a valid date in every month, and the 40th is not a valid date in any month.
3. Write a custom Snap! block called day in year that takes a year number and a number between 1 and 366 and says the date that corresponds to that numbered day of the specified year. For example, in non-leap years day #1 is January 1, day #32 is February 1, day #365 is December 31, and day #185 is July 4. Give an error message if the number is 366 and a non-leap year is specified.
4. BONUS: Determine the day you were born. Write a custom Snap! block called day of week that takes a month name, date, and year as arguments and says the day of week on which that date falls in that year. See <http://en.wikipedia.org/wiki/Determination_of_the_day_of_the_week> for information on finding the day of the week from a date.

## Grading Scheme/Rubric

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| **Lab 3.3 Criteria** | Points |
| 1.1 month name | 0.5 |
| 1.2 day name | 0.5 |
| 1.3 days in | 0.5 |
| 2.1 is leap year | 0.5 |
| 2.2 is a valid date | 0.5 |
| 2.3 day in year | 0.5 |
| 2.4 Bonus: day in week | 0.5 |
| **PROJECT TOTAL** | **3.0 points** |