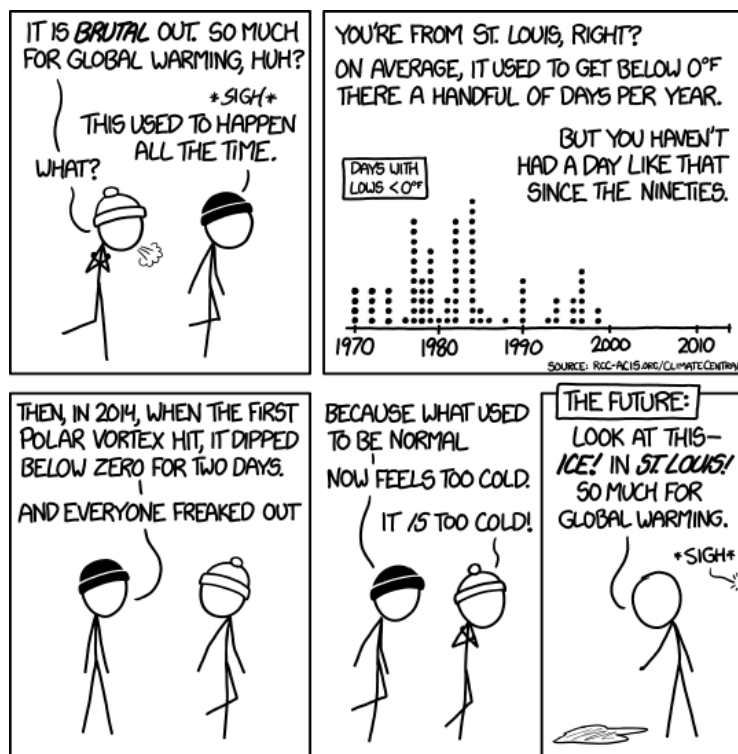


The particularly cold weather this year was a major story for everyone living in the Midwest. An online comic, xkcd, posted the following comic on January 24, 2014:



"Cold"

Source: <http://www.xkcd.com/1321/>

While this comic may be trying to make various points, in lab this week we will focus on just the data. Instead of looking at the weather in St. Louis, we will examine the weather in Champaign, IL from January 1, 1968 to January 31, 2014.

Getting Ready

Similar to last week, we have prepared a base set of files for you to work from. You can find them on the CS 105 website, under the "Labs" section, under the link to "Lab #5". (You can find the CS 105 website by using an internet search for "CS 105" or by going to <http://bit.ly/cs105sp14>.)

Function Overview

Inside of `lab5-js.js`, you will find only a single function this week:

```
function zeroDegreeDays(temps, cutoff)
```

This function contains two parameters:

- **temps**: An **array** of containing the low temperature for each day in a specific year.
- **cutoff**: A cutoff value for temperatures. Your function must **return** the number of days where the temperature was below the cutoff.

Programming Your Function

One of the best ways to start writing code is to write down, in English, what you need to do to accomplish the task described on the front of this page.

```
The function zeroDegreeDays gives us the following:
    temps: an array of temperatures where each entry in the array
           is the low temperature for a different day
    cutoff: a cutoff temperature

/* To count the number of days that the temperature is below
   cutoff, I need to: */

/* Finally, I need to also return the value I counted: */
```

Fill this box in!

Testing Your Function

Once you have programmed your function, evaluate a few different things to make sure your function is working:

- How many days did the temperature in Champaign get below **zero** degrees? (*Expected result: this should vary by year; some years were colder than others.*)
- How many days did the temperature in Champaign get below **32** degrees? (*Expected result: this should vary by year; some years were colder than others.*)

Another great way to test your function is to test input where you already know the expected result:

- How many days did the temperature in Champaign get to **-50** degrees? (*Expected result: none; the weather has never gotten that cold, ever.*)
- How many days did the temperature in Champaign stay below **120** degrees? (*Expected result: all of them; the weather has always stayed below 120 degrees.*)

Submitting the Lab

Once you have finished: submit your lab! Remember, **every person in your group must submit the lab**. As usual, one member will randomly be chosen and their program will be the grade for everyone.