

HW 5: Measuring River pH

You must parse a year's worth of data, measuring the pH of a river at several different sites. However, the data set is incomplete, and your program must cope with this without a fatal error. Your notebook should be called `pH-parser.ipynb`.

The file you will be working with is called `river-pH.tsv`. Here, the `tsv` extension refers to “tab-separated data”. In other words, this is a text file with many entries, each separated by a tab. Each line represents readings taken from a particular site over the course of a year. The first row names each day, and the first column names each site, similar to this:

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	...
Site A	6.74	6.99	6.23	7.46	6.93	6.23	7.27	6.38	...
Site B	8.14	7.06	5.35	4.49	5.26		7.06	7.56	...
Site C	7.22	6.24	6.58	7.45	6.88	6.71	7.46	6.88	...
:									

If data is missing, it will appear as a “hole” in the data (such as Site B on Day 6). Please also be aware that if you open this file in an editor, the tabs may not be big enough to “line up” nicely as they do here. Thus, the file may appear unaligned.

You can use the `.split()` method in order to split up a long `string` into a list of smaller `strings`. In this case, we want to split on a tab character. If an entire line is held within a variable called `line`, the command `line.split("\t")` will chop up the `string` based on the tabs. It will return a brand new list, each element of which is a piece of `line`.

Your final output should be the mean reading of each site, and its standard deviation. Round your answers to two decimal places, and be sure to print out the number of missing values there were. For example, for the data in `river-pH.tsv`, your program should start with something like this:

```
pH Readings
Site A: 6.87 +- 0.52 (9 missing readings)
```

Please note that I will test your program on a different version of `river-pH.tsv`, with different site names. This means that you need to extract and save the site names from the file you are reading! Also, be sure to split the task into functions. If you do not do so, you will be penalized.

