

# Homework 3

Due: Friday, November 6

## String Parsing

### Description

A coworker has recorded some measurements which you need. They send the file to you and you find it is terribly formatted!

```
(TIME, VALUE)
(0.00, 0.73)
(0.02, 5.97)
(0.04, 2.47)
etc...
```

You decide to reformat the file for them to make it easier to read the data. Your job in this homework is to read in the data from `measurements.dat` and write it to a new file `measurements_new.dat` in the following format:

```
TIME VALUE
0.00 0.73
0.02 5.97
0.04 2.47
etc...
```

Notice that the commas and parentheses have been removed.

### Procedure

1. Download the file [measurements.dat](#) from Google Drive
2. Write two functions:
  - (a) `double get_time(string line)`
  - (b) `double get_value(string line)`

`get_time` accepts a line from the file as input, parses the string, and returns the first of the two numbers. `get_value` accepts the same input and returns the second of the two numbers.
3. Before proceeding, write unit tests to ensure that you have coded these functions correctly
4. In `main`, do the following
  - (a) Start by running your unit tests. Print a message indicating that the tests passed.
  - (b) Open the file `measurements.dat` (make sure to check if the file opens properly by using the `fail()` method)
  - (c) Open the output file, `measurements_new.dat`. Also check for `fail()`
  - (d) Loop over the input file and use `getline` to read each line of the file into a string variable
  - (e) Use your functions to parse the string into two doubles, and write these doubles to the output file in the specified format
5. Upload both your `cpp` file and your output file to Canvas