

hw1

Due Jan 20, 2016 by 12pm **Points** 10 **Submitting** a file upload **File Types** zip
Available after Jan 13, 2016 at 12am

Homework 1: Word Frequencies

Due: Noon on Wed., Jan. 20

You should complete this homework individually. We will begin working in pairs for HW2.

For this homework you will design and implement a word frequency counting program, `freq`, in Rust. The objective of this homework is to get you writing Rust code, and to help you gain familiarity with Rust's iterators, traits, and data structures.

The deliverable

Your `freq` program consumes text from standard input. It prints a list of word-frequency counts, in descending order of frequency, to the standard output.

```
$ cat test.txt
hello world,
bye world
```

```
$ ./freq < test.txt
world: 2
bye: 1
hello: 1
```

You may wish to run your `freq` program on [some](http://www.gutenberg.org/cache/epub/1342/pg1342.txt) [larger](http://www.gutenberg.org/cache/epub/1342/pg1342.txt) [inputs](http://www.gutenberg.org/cache/epub/11/pg11.txt) [inputs](http://www.gutenberg.org/cache/epub/5200/pg5200.txt).

The specification is intentionally incomplete, so you will have to make some assumptions in your design. Please list your assumptions in a doc comment giving usage information at the top of `main.rs`.

Evaluation

Your grade will be based on:

- correctness (how closely your program adheres to its specification),
- style (not expecting the most idiomatic Rust at this point, but I'll be looking for good factoring—don't put everything in `main`), and
- efficiency (no need to benchmark or profile, but do choose sensible data structures and avoid needless copying).

How to submit

Please submit a zip archive of your Cargo project directory here on Canvas. Name your archive `NETID-hw1.{zip,tgz}` (e.g., `jat489-hw1.tgz`).