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Programming Language: Rust

Reason: I have been interested in Rust for a while with the interesting memory management implantation. It also has many benefits for high performance computation, writability improvement over C, and a package manager. The way I see it sort of takes some of the performance benefits from C but keeps the ease of creating code from python.

Plan: I think I'm going to split the project into two parts. First part is the research of a particular part of the language. I want to look into how the memory management system works from a programmer level but also what goes on behind the scenes. Second part is making a program to show off some of the nice features of Rust. The features are:

- List comprehension
- Type Inferencing
- Pattern matching
- Streams(async iters)
- Plus a few more

Ideas for program goal:

- Small tokenizer
- Jacobi iteration

Milestones: Means Important

Work on Research

Nov 12: Do general research and Start writing some small programs

Nov 15: Write the sections for summarizing how the language addresses a list of language features

Nov 18: Get most of the rough draft done and researching

Nov 20: progress report

Nov 24: Get a rough version of the program working

Nov 27: Finish program

Dec 1: Get slides for presentation outlined

Dec 4: Finish and submit draft

Dec 6: Finish presentation

Dec 7: Present

Dec 11: Clean up any edits on paper and make sure code is commented

I think getting a rough draft done early is important for me because writing is an iterative process so I will leave myself plenty of time to revise it. Finishing the program will be important because it will give me a better understanding of how the language is to use. Also it will give me examples to use in the presentation of the different features.