

## **Project 1: Minishell**

### **Due: Tuesday February 25, 2020**

#### **Description:**

For your first project you will write a simple program to read commands from the console and execute them. The minishell should look for commands in the current path to execute and, if they are present, execute them. If the command is not found an error message stating "command not found" should be sent to cerr or stderr. Rather than just executing commands as typed you will have an alias facility. The alias facility will allow the user to customize commands. For example if they would prefer dir rather than ls they would type

```
alias dir ls
```

And then when they type dir your program will substitute in ls (for the first argument only). The alias facility can also include multiple words or flags and they can be substituted. Another example would be :

```
alias print lpr -Plj1026
```

Which would substitute lpr for the first argument followed by -Plj1026 for the second argument.

Your shell should fork and execute the command in a separate process. It should then wait for the command to finish and print out the status code for the job along with the resource usages (see wait3 and wait4 calls).

Lastly, your shell should keep a list of the commands that have been run (a history) and at the end of the shell session it should be saved in a file named .minihistory.

In this assignment you will NOT be doing wildcard substitution, redirection, piping, or actually use the history. We may choose to do that later.

#### **Submission:**

Turn in your source code and any needed datafiles on BlackBoard.