CIS 3110: Operating Systems
Assignment 1: Writing a Shell
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My Algorithm
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The main function takes in the user input and is responsible for parsing the input using the lex file provided. There are a number of utility functions created for code reuse and simplicity. After user input has been parsed, the algorithm inside main determines what the name of the command is, whether it is a background task or not, whether it redirects its output, or takes in input, and separates the main command name from its arguments for use with execvp().

I have created a function called executecommand where it will create a child process using fork(), there are if, else if and else statements depending on what the return value for fork() is; the execvp() system call is inside the if statement that will execute the child process. It also determines if its required to do IO operations before exec is called.

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Custom Command: sub
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My custom command is subtract.

Example: subtract 9 10
Details: subtract the two numbers, and output the result
Output: 10 - 9 = 1

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Compilation
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make all

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Running the programs(s)
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./msh