Shell Project – Answer Document

Design

* Place the design of your implementation in this item. You must create a design artifact that shows the design of your shell. This should be two levels. A higher-level design shows the overall design of your shell - something that people can understand your design without getting into the details. The high level shows how users interact with your shell. A lower level design shows algorithmic flow and the underlying data structures. You can Search the Internet for design artifacts. In CPSC 240, you used UML to create items such as class diagrams and structure charts.

Features Completed

For each of the following features, indicate which you have designed and implemented in your shell. The gray boxes can be X-ed in by double clicking on it. Alternatively, just write yes or no. If you indicate yes for completing a feature, place a screen shot after the bullet showing your tests that demonstrate the feature.

* Basic reading of a command line and breaking into its parts.
* cd and pwd commands
* fork() and exec() of command that are programs such as % cat file.txt
* Connect two commands with a pipe such as % cat file.txt | grep string
* Redirect output such as % cat file.txt > outputfile.txt
* Redirect input such as % grep string < inputfile.txt
* Processes Control-D to exit the shell.
* Ability to run a program in the background such as % ls &
* Processes Control-C such that the shell does not terminate.
* Implemented your own version of the ls program.
* Implemented a second Linux program such as cat.
* Gusty, the code for my shell is so cool that I want you to read it.

Test Cases

* Place your test cases here. Your collection of test cases should demonstrate you have tested the features you completed. Your test cases should be a copy/paste of you applying your test cases to your program. If the test case is not obvious, you should annotate the copy/paste with descriptions. For example, the following commands are obvious test cases.

Gusty % ./teenysh

teenysh0 $ pwd

/Users/gusty/Google Drive/00UMW/16CPSC405/Labs/ShellProject/Gusty

teenysh1 $ ls

a.out gusty.txt loop.c ls.c sh.c teenysh.c

class.txt gustysh.c ls out.txt shellhelp.c test.txt

dir loop ls copy.c out1.txt skipwhitespace.c

teenysh2 $ ls | grep loop

loop

loop.c

teenysh3 $ exit

Gusty %

Effort Paper

* Place your paper here. Write a paper that (1) describes your effort on the project (include a log of days/hours), (2) describes your difficulties on the project, and (3) describes the features completed in your shell.

Code

* Submit your code and a makefile.