dash - An Extended Specialized Shell Emulator

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Course: CSC 456 - Operating Systems
Professor: Dr. Karlsson
Location: McLaury 306
Time: MWThF 2:00pm - 2:50pm

Description: This program emulates a shell prompt. It allows for most of the common shell commands, including but not limited to: cndnm, systat, cd, gcc/g++, ls, and piping. These commands perform as they are expected to perform in a normal shell prompt. This program uses fork to created child processes and execvp to call the functions to be run in those child processes.

Libraries used: fstream, iostream, sstream, string, cstdlib, cstring, fcntl.h, sys/resource.h, sys/time.h, sys/wait.h, unistd.h

Compiling instructions: use provided makefile with the command make.

Testing and verification: I ran many test cases, including the ones provided by Dr. Karlsson on the assignment write up. The program correctly responds to ¡enter¿ key presses, random entries, and correct entries. It detects invalid commands and prints a usage statement to the console. It also verifies the first argument of commands that require an additional argument.

Submission description: makefile, dash.cpp which contains the function main, commands.h which contains the #include statements and function proto-types for commands.cpp, and commands.cpp which contains the code for the command handling functions.
Functionality not implemented: pid, redirecting, signals.