# Overview

The implementation of this code does indeed pass all the requirements stated in the specification part in README file for lab 1 as shown in figure 1 in Appendix. This section outlines the requirements that was met in the implemented lsh-shell.

The lsh shell can successfully response to the ctr-D command by interpreting the parsed line-input as a null char object and exit the shell terminal and printing “detected EOF” End-Of-File. The lsh shell is capable of handling several simple commands that are executable in a normal bash terminal such as “*ls”, “date”, and “who”*. The current path environment is saved in a variable, additionally part of this path, the last two directories, is shown in the lsh shell as shown in figure2 Appendix. The shell also supports running operations in the background meaning that a different process handles the operation without disturbing or blocking the shell from executing additional commands. Furthermore, the shell implement piping function which was relatively the most difficult one to implement. For instance, the command “***ls | grep out | wc -w*** “consists of three commands in total and should be executed dependently of each other, meaning that the first command direct its output to the second command and so on. The shell can also read from or write to an external file, known as **I/O Redirection** this is done by dealing with symbol “<” or “***>***”. Moreover, the shell can change the directory using the **“cd”** command and “**exit**”. Finally, the ctr-C command is implemented so that it only terminates the current foreground process and not the shell itself, meaning that it shouldn’t affect any background jobs. All these commands and executions are handled in a way that it doesn’t leave zombies behind, meaning that a child is never left by its parent. The implemented lsh-shell doesn’t invoke any system calls from the outer terminal such as bash or sh.

# Appendix

Figure2 shows that last two directories in the terminal.



Figure1 depicts all the 13 test cases passed.

