

General Method used in Testing

1. Run out team's test on the application
 - a. Reasonably modify our test case to match the presentation of their output (E.g. Changing types of exception caught and error messages printed)
 - b. Investigate failing test cases and decide if the bug is valid
 - i. Due to the differences in implementation and assumptions, some cases may not be reached under regular usage. For example, failing tests for invalid input for helper functions are accepted because inputs are verified before invoking helper functions.
 - c. The remaining test cases after filtering are logged as bugs.
2. Compliment with system testing via ShellImplTest
 - a. Testing through parseAndEvaluate()
 - i. No empty string tested since the check was done previously.
 - b. Comprehensive but not exhaustive test on various combination of commands and parameters

Bugs

| Bug Report Number | Description | TestCase | Comments (this column should be left empty; for marking usage) |
|-------------------|---|--|--|
| 1 | Cat: The line numbers from different files do not continue | cat -n multi-line-1.txt single-line-1.txt | |
| 2 | Cat: Not supposed to have a newline after first file's output if there was no newline in the file | cat single-line-with-no-newline.txt single-line-with-endline.txt | |
| 3 | Cat: one-liner.txt does not have newline but printing have newline | cat one-liner.txt | |
| 4 | Cp: No error message when copying src folder to destination folder without recursive flag | cp srcFolder dstFolder | |
| 5 | Cp: Misleading error message, is `cp: nonExistentDirectory: Invalid file(s)` but should be `cp: target 'nonExistentDirectory' is not a directory` in UNIX instead. | cp *.txt nonExistentDirectory // Run this when there are multiple files matching *.txt | |
| 6 | Globbering: Globbing failed to expand directory names. | ls */test1.txt | |
| 7 | Ls: Listing non-folders showed error message | ls file1 file2 | |

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| 8 | Ls: Error message for listing non-existing directory out of place. | ls dirPresent1 dirNotPresent dirPresent3 // This is detected by running the shell | |
| 9 | Mv: No error when moving file to an existing file in folder with no overwrite flag | mv -n file dir // Where ./dir/file exists | |
| 10 | Mv: Content of source folder not moved into destination folder when destination folder exists. | mv srcDir dstDir // Where dstDir contains a folder "srcDir" | |
| 11 | Mv: Does not move other files if one file cannot be moved | mv * Directory // Where Directory is in current directory | |

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| 12 | Paste: Output is different from bash shell | paste 123.txt abc.txt wxyz.txt // File contents 123.txt: 1 2 3 abc.txt: a b c wxyz.txt w x y z | |
| 13 | Rm: Deleting non-empty directory giving incorrect error message "rm: Is a directory" | rm -d Test | |
| 14 | Rm: Does not delete other files if one file cannot be deleted | rm directoryWithStuff hi.txt | |

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| 15 | <p>Uniq: Incorrect result when dealing with files not ending with newline</p> <p>// Expected to have two separate entries because the first line has a newline, the second doesn't. So they are different although they look the same.</p> | <p>uniq testFile</p> <p>// Content of testFile: This is a line This is a line</p> <p>// Note that the last line does not have a newline</p> | |
| 16 | <p>Uniq: Incorrect result for -d flag</p> <p>// Caused by the newline issue also</p> | uniq -d testFile | |
| 17 | <p>Uniq: Incorrect result for -D flag</p> <p>// Caused by the newline issue also</p> | uniq -D testFile | |
| 18 | <p>Wc: Wc on directory show error message instead of being successful</p> | wc directory | |
| 19 | <p>Wc: One more line reported for file with single line without newline. Not matching unix shell behaviour.</p> | wc single-line-file.txt | |
| 20 | <p>Wc: Wrong character count reported when redirecting in a file</p> | wc < single-line-file.txt | |

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| 21 | <p>Cd: Abnormal behavior of cd and ls together.</p> <pre data-bbox="392 316 775 571">> Task :ShellImpl.main() \$ cd ../../ \$ ls ls: : Could not read file \$ cd ../../...../ \$ ls ls: : Could not read file</pre> <p>// It seems like this is a Windows-based issues</p> | <p>cd ../../ ls</p> | |
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