CS4218 Software Testing
Project Assumptions

1. All app names must be lowercase.

2. All error messages are written to stderr.

3. If an app doesn't require input from stdin or doesn't output result for certain cases, then input/output streams can be null.

4. ls

    a. There are no cyclic recursive links in the folder where ls is called.

    b. Symbolic links are ignored.

    c. Leading period in hidden files and folders do not define the file extension. E.g. .env has no extension while .dev.yml has the extension .yml

    d. ls a path to a non-directory file will result in an error. This is different from the unix implementation where the file name will be shown instead. E.g. ls test.txt

    e. [Options] can be specified anywhere in the arguments

        i. Some of the valid arguments:

            1. ls -X -R [FOLDERS]

            2. ls -XR [FOLDERS]

            3. ls <FolderA> -X <FolderB> -R

            4. ls [FOLDERS] -X -R

    f. If -X is not specified, output files are sorted in lexicographical order.

5. grep

    a. [Options] can be specified anywhere in the arguments, but PATTERN must come before [FILES].

        i. Some of the valid arguments:

            1. grep -i -c PATTERN [FILES]

            2. grep -i PATTERN -c [FILES]

            3. grep PATTERN [FILES] -i -c

            4. grep PATTERN -ic [FILES]

        ii. Some of the invalid arguments:

            1. grep [FILES] PATTERN

            2. grep - PATTERN [FILES]

6. wc

    a. Uses a single tab character as delimiter instead of multiple whitespaces.

7. cd

    a. cd must take in a path.

8. mv
    a. For Format 1, if SOURCE is a folder, TARGET is an existing file, an exception will be thrown.
9. IO Redirection
    a. If several files are specified for input redirection or output redirection, throw an exception. Hence, both of the following input will throw an exception:
        i. Echo a b c > file1.txt file2.txt
        ii. Echo a b c > file1.txt > file2.txt
        iii. If the file specified for output redirection does not exist, create it. No exception should be thrown. However, if the command fails due to other exceptions, the created file will not be deleted.
10. Split
    a. An option ('-l', '-b') requires an argument
    b. If more than 676 output files are required, one 'z' is added to the filename prefix for every 676 files (e.g. the first 676 filenames are prefixed with 'z', the next 676 filenames are prefixed with 'zz')
11. Uniq
    a. An option ('-c' '-D') is meaningless therefore throws exception.
12. Paste
    a. Newline should be added in by the shell / run method instead of the interface methods (mergeStdin, mergeFile, mergeStdinAndFile)
    b. For mergeFileAndStdin, stdin is output before file as the stdin arg is before filename array arg
13. Cp
    a. Behaviour not specified in the project specifications follows UNIX behaviour