Systems Programming (M3I324183)

Hints and resources

safeDel-skeleton.sh is provided for you with dummy getopts and select statements. Before doing anything else you should run this and see what it does for different input data.

It can be executed in 2 ways i.e.

> **./safeDel-skeleton.sh**

will execute the application in "menu mode" with the select statement, or

> **./safeDel-skeleton.sh –l** etc.

which will execute the application in "command line switch mode" with the getopts statement.

Either way an optional sequence of additional command line arguments can be picked up with $@ and is currently just printed out.

As the functionality for the different options is common between the select and getopts statements this should be factored out into bash functions.

You can then start coding by extending safeDel-skeleton.sh. It is expected that you will keep this as a getopts statement followed by a select statement.

How to approach this coursework systematically:-

- use functions so the code is not repeated – these will be called from within the getopts and select statements
- work on one option at a time – get it working then start working on the next
- leave the monitor and kill options until last
- keep backups after adding each option – git is installed if you want to use it – so you can revert to the last version if necessary
- for each option try it out as much as possible on its own at the shell prompt; initially forget about testing that files exist etc.; once you are happy you have a partial solution copy it in replacing the dummy echo statements
- assume you are dealing with ordinary files only – not directories, links etc.
- for that option add the code to test whether files exist etc. as appropriate – if statements etc.
- add the trap and the warning about the trashCan directory size – better implemented as functions
- as you will know by now there are many ways to implement a certain feature with bash; I used for the main script the following: mkdir, echo, du, cut, wc, pidof, pgrep,

kill, basename, file; however that does not mean you have to all of these or cannot use others to create an equivalent solution.

Hint: **mv** can be used:

mv file [file ...] directory

e.g.

mv file1 file2 file3 dir1

moves these three files to dir1.

A good page and example about writing manual page entries is here: http://www.tldp.org/HOWTO/Man-Page/index.html - Section 3 therein is all you are required to follow. You can edit the example and base your manual page on this. A generated text file viewable in gedit can be created from a safeDel-manual.1 groff file thus:-

groff -man -Tascii safeDel-manual.1 | col -b > safeDel-manual.txt

Enhancement:- that is the monitor script, monitor and kill options in main safeDel script. You may find the Parker book of use for this and you may want to look at scripts using md5sum. (I am not saying this is the best or only way to do this)

No help will be given in the labs for the enhancement – all the help you need will be given for the main script

BH Jan 2019