**Punjab University College of Information and Technology**

**System Programming**

Syed Abrar Ahmad SP Lab # 02

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[20 Points] [30 Minutes]

**Q1**. Write a shell script named “showTable” that MUST use a function to display table of a number according to the command line arguments passed to the script. This script should have a total of **5** or **6** arguments.

Rules for arguments are as follow.

(Rule 1) No arguments => Exit with proper message

(Rule 2) greater then 6 arguments => Exit with proper message

(Rule 3) **showTable.sh 2** (if only one argument is given then display the table of given number from 1 to 10).

(Rule 4) **showTable.sh 2 -s 3** ( if -s argument is given then display the table of given number from 3 to 10).

(Rule 5) **showTable.sh 2 -e 13** (if -e argument is given then display the table of given number from 1 to 13).

(Rule 6) **showTable.sh 2 -s 1 -e 10** ( here “2” is the table you must display, “-s” is an option and “1” is the starting value of table. “-e” is an option and “10” is the ending value of table.)

(Rule 7) **showTable.sh 2 -s 1 -e 10 -r** ( here “2” is the table you must display, “-s” is an option and “1” is the starting value of table. “-e” is an option and “10” is the ending value of table.)

If added “-r”, you must display table in reverse.

**Note**: The script should do proper error handling and input validation like the argument is an

integer or not, or the number of arguments are valid or not and the starting limit is less than

the ending limit or not!

[10 points] [20 Minutes]

**Q2.** Write a shell script that takes name of a running process as **argument** (MUST be a running

process) and displays information of the process in the following format:

PID: 1234

Name: abc

PPID: 5678

STATE: running

[Hint: see status file of the process in /proc directory]

[30 Points] [20 Minutes]

**Q3**. Write a Shell script named “showMeOwner”. This script should contain a function named

“showAllOwners”. This script should take user name as argument and search and display all files owned by this user in your home directory in the following format:

“Filename” | “File type” | “Owner”

Rules for the arguments are as follow:

No argument => Exit with proper message

greater then 1 arguments => Exit with proper message

**Note**: The script should do proper error handling and input validation like the argument is an

integer or not, or the number of arguments are valid or not and the starting limit is less than

the ending limit or not!

[40 Points] [60 Minutes]

**Q4**. Suppose I have some files of different extensions(txt,doc,csv,mp3.mp4) in my folder, the script will create exactly one folder for each file extension type and then move all the file of same extension in that folder. For example I have files like

123.txt

1236.doc

19as.mp3

Asd.mp4

Lol.mp4

After running your script we have 4 different folders of extension name and each folder contain files of same extension

**Txt** = 123.txt

**Doc** = 1236.doc

**Mp3** = 19as.mp3

**Mp4** = Asd.mp4, lol.mp4