**Essential Shell Programming**

Date: 03/04/2020

**To be completed by 06/04/2020**

In our previous classes we had discussed the following topics:

1. How to write and run a shell scripts

* you can use any editor for example vi editor. to write a shell script.
* you can use any shell to run your script by either having the first line of the script with an interpreter line of the form #!/bin/sh for bourne shell or #!/bin/bash for bash shell.
* you can avoid the interpreter line and directly run the script as follows:

$sh script.sh # to use bourne shell or

$bash script.sh # to use bash shell. script.sh code is available in the text book

* you can also run your script as follows:

$chmod +x script.sh # execute permission must be provided for the file

$./script.sh

**Exercise : write and execute the script named script.sh**

2. How to make the script interactive

* make use of the read statement

**Exercise : write and execute the script named emp1.sh available in the text book**

3. How to use command line arguments

$1,$2,$3...

$#

$0

$\*

"$@"

**Exercise : write and execute the script named emp2.sh available in the text book**

4. How to know the exit status of the command

$ grep director emp.lst > /dev/null; echo $?

you can use any command in place of grep command

If 0 is returned , the command is successful else it is a failure

**Exercise : use command line to test . Later we will use it in scripting**

5. Conditional execution using && and || - this is discussed in previous chapters

used between two commands

cmd1 && cmd2 # here cmd2 will be executed only when cmd1 is successful

cmd1 && cmd2 # here cmd2 will be executed only when cmd1 is a failure

**Exercise : use command line to test . Later we will use it in scripting**

6. If Conditional

Observe all the 3 forms of using the if conditional

If is similar to its use in any other language. But, in shell scripting we always use with a command. Therefore, the construct specifies

if command is successful

then

execute commands

else

execute commands

fi

**Exercise : write and execute the script named emp2.sh available in the text book**

4. Test and [ ] to evaluate expressions

[ ] is a short hand notation for test

It is used in 3 ways:

1. Numeric Comparison

**Exercise : write and execute the script named emp3a.sh available in the text book**

1. String Comparison

**Exercise : write and execute the script named emp4.sh available in the text book**

1. File tests

**Exercise : write and execute the script named filetest.sh available in the text book**

5. Case conditional:

Observe how the case statement is used:

**Exercise : write and execute the script named menu.sh available in the text book**

6. expr: computation and string handling

**Exercise : use command line to test expr perform basic arithmetic operations**

**Exercise : use command line to test expr perform following string operations:**

1. **Length of a string**
2. **extracting a substring**
3. **locating position of a character**

**Assignment :**

**1.** Write a menu driven program to achieve the following:

1. Check the existence of files passed as command line arguments
2. Determine the first occurrence of ‘m’ in the given string.
3. Search in the file emp.lst for the patterns stored in a file pat.lst
4. Quit
5. Write a menu driven program to achieve the following:
6. Search for the patterns passed as command line arguments
7. Store the entered Name and USN in a separate file.
8. Check whether the file is a readable file or not.
9. Quit

3. Write a menu driven program to achieve the following:

1. Store the list of users in a separate file and as well display the same on the monitor.
2. To extract a substring
3. To check whether the given file has execute permission.
4. Quit