

		Finolex Academy of Management and Technology, Ratnagiri	
		Department of Information Technology	
Subject name: UNIX Lab			Subject Code: SEITL402
Class	SE IT	Semester – IV (CBCGS)	Academic year: 2017-18
Name of Student	Kazi Jawwad A Rahim		QUIZ Score :4
Roll No	28	Assignment/Experiment No.	08
Title: To implement file management shell scripts and sed.			

1. Course objectives applicable: LO1, LO4
2. Course outcomes applicable: PO2, PO3, PO4
3. Learning Objectives: To learn shell script and sed concepts.
4. Practical applications of the assignment/experiment: To implement file management shell script sed (stream editor)
5. Prerequisites: C Programming Language and Operating System
6. Hardware Requirements: <ul style="list-style-type: none"> PC with minimum 2GB RAM
7. Software Requirements: <ul style="list-style-type: none"> Fedora installed.

8. Quiz Questions (if any): (Online Exam will be taken separately batchwise, attach the certificate/ Marks obtained) <ol style="list-style-type: none"> 1.Command to print specific line. 2. sed stand for. 3.Command to print range of lines. 4. Command to replace specific word. 5. Command to delete a line above specific word.
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9. Experiment/Assignment Evaluation:			
Sr. No.	Parameters	Marks obtained	Out of
1	Technical Understanding (Assessment may be done based on Q & A <u>or</u> any other relevant method.) Teacher should mention the other method used -		6
2	Neatness/presentation		2
3	Punctuality		2
Date of performance (DOP)		Total marks obtained	10
Date of checking (DOC)		Signature of teacher	

10. Theory:

File Management

All data in Unix is organized into files. All files are organized into directories. These directories are organized into a tree-like structure called the file system. When you work with Unix, one way or another, you spend most of your time working with files. This tutorial will help you understand how to create and remove files, copy and rename them, create links to them, etc.

In Unix, there are three basic types of files –

- **Ordinary Files** – An ordinary file is a file on the system that contains data, text, or program instructions. In this tutorial, you look at working with ordinary files.
- **Directories** – Directories store both special and ordinary files. For users familiar with Windows or Mac OS, Unix directories are equivalent to folders.
- **Special Files** – Some special files provide access to hardware such as hard drives, CD-ROM drives, modems, and Ethernet adapters. Other special files are similar to aliases or shortcuts and enable you to access a single file using different names.

SED (Stream editor)

SED command in UNIX is stands for stream editor and it can perform lot's of function on file like, searching, find and replace, insertion or deletion. Though most common use of SED command in UNIX is for substitution or for find and replace. By using SED you can edit files even without opening it, which is much quicker way to find and replace something in file, than first opening that file in VI Editor and then changing it.

- SED is a powerful text stream editor. Can do insertion, deletion, search and replace(substitution).
- SED command in unix supports regular expression which allows it perform complex pattern matching.

11. Results:

1) Viewing a range of line of document

Description: It will show the lines to and from.

Syntax: `sed -n 'to,fromp' filename.extension`

OUTPUT:

```
[students@localhost~]$sed -n '2,10p' JK.txt
```

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I don't know what to write next.

That's why I am going to end this.

2) Viewing entire file except the given range.

Description: It will display all the lines except the given range.

Syntax: `sed 'to,fromd' filename.extension`

OUTPUT:

```
[students@localhost~]$sed '2,10d' JK.txt
```

Hello, this is the UNIX practical session.

3) Printing specific line

Description: It will the line of given no or it will print the lines having that specific word/character.

Syntax: `sed -n 'linenop' filename.extension`

or `sed -n '/word/p' filename.extension`

OUTPUT:

```
[students@localhost~]$sed -n '10p' JK.txt
```

That's why I am going to end this.

```
[students@localhost~]$sed -n 'end/p' JK.txt
```

That's why I am going to end this.

4) Viewing non-consecutive lines and ranges.

Description: It will display all the lines of different ranges.

Syntax: `sed -n -e 'to1,from1p' -e 'to2,from2p' filename.extension`

OUTPUT:

```
[students@localhost~]$sed -n -e '2,5p' -e '8,10p' JK.txt
```

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5) Deleting specific line.

Description: It will delete specific line.

Syntax: `sed 'linenod' filename.extension`

OUTPUT:

```
students@localhost~]$sed '2d' JK.txt
```

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6)Replacing words or characters

Description: It will replace words/characters with/without ignoring case in a line.

Syntax: sed 's/oldcharacter/newcharacter/g' filename.extension
or sed 's/oldcharacter/newcharacter/gi' filename.extension

OUTPUT:

```
[students@localhost~]$sed 's/sunny/hot/g' JK.txt
```

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That's why I am going to end this.

```
[students@localhost~]$sed 's/HOT/sunny/gi' JK.txt
```

Hello, this is the UNIX practical session.

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7)Replacing word/character inside the range.

Description: It will replace word/character within a given range.

Syntax: sed 'to,from s/oldwrord/newword/g' filename.extension
or sed 'to,from s/oldwrord/newword/gi' filename.extension

OUTPUT:

```
[students@localhost~]$sed '1,6 s/is/are/g' JK.txt
```

Hello, there are the UNIX practical session.

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Peoples gone crazy after seeing us.

I don't know what to write next.

That's why I am going to end this.

```
[students@localhost~]$sed '1,6 s/ARE/is/gi' JK.txt
```

Hello, this is the UNIX practical session.

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8) Inserting spaces in files.

Description: It will insert spaces between each lines.

Syntax: sed G filename.extension

or sedG:Gfilename.extension

(single blank line will be inserted)

(two blank line will be inserted)

OUTPUT:

[students@localhost~]\$sed G JK.txt

Hello, this is the UNIX practical session.

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That's why I am going to end this.

[students@localhost~]\$sed 'G;G' JK.txt

Hello, this is the UNIX practical session.

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9) Inplace editing and backing up the original file.

Description: It will replace a character/word within whole file.

Syntax: `sed -i 's/oldword/newword/gi' filename.extension`

OUTPUT:

```
[students@localhost~]$ sed -i 's/this/That/gi' JK1.txt
```

```
[students@localhost~]$ cat JK1.txt
```

That is line 1

That is line 2

That is line 3

That is line 4

That is line 5

10) Performing two or more substitution at a time.

Description: It will replace two or more within word/character within a file at a time.

Syntax: `sed -i 's/oldword1/newword1/gi;s/oldword2/newword2/gi' filename.extension`

OUTPUT:

```
[students@localhost~]$ sed -i 's/that/This/gi;s/is/was/gi' JK1.txt
```

```
[students@localhost~]$ cat JK1.txt
```

This was line 1

This was line 2

This was line 3

This was line 4

This was line 5

11) Printing each line twice.

Description: It will print all the lines of file twice.

Syntax: `sed 'p' filename.extension`

OUTPUT:

```
[students@localhost~]$ sed 'p' JK1.txt
```

This was line 1

This was line 1

This was line 2

This was line 2

This was line 3

This was line 3

This was line 4

This was line 4

This was line 5

This was line 5

12) Changing whole line.

Description: It will change the line having specific word.

Syntax: `sed '/specificword/c newline' filename.extension`

OUTPUT:

```
[students@localhost~]$ sed '/1/c This was initial line' JK1.txt
```

This was initial line

This was line 2

This was line 3

This was line 4

This was line 5

13) Adding a line above a specific word.

Description: It will insert a line above given specific word.

Syntax: `sed '/specificword/i newline' filename.extension`

OUTPUT:

```
[students@localhost~]$ sed '/2/i This was second line' JK1.txt
```

This was line 1

This was second line
This was line 2
This was line 3
This was line 4
This was line 5

14) Adding a line below a specific word.

Description: It will insert a line below given specific word.

Syntax: sed '/specificword/a newline' filename.extension

OUTPUT:

```
[students@localhost~]$sed '/2/a This was third line' JK1.txt
```

This was line 1
This was line 2
This was third line
This was line 3
This was line 4
This was line 5

12. Learning Outcomes Achieved

Thus we learned shell scripts and sed concepts.

13. Conclusion:

Hence, we have studied file management and sed in shell script.

14. References :

- [1] Unix, concepts and applications by Sumitabha Das, McGraw-Hill
- [2] Mastering Shell Scripting, Randal. K. Michael, Second Edition, Wiley Publication



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