

# UNIX

Lesson 11 : SED

# Lesson Objectives



- In this lesson, you will learn:
  - SED Introduction
  - SEDCommands





## 11.1: SED – Introduction to SED

### Stream Editor (SED)

- **Non-interactive editor**
- **Instead of the user altering a file interactively by moving the cursor on the screen, the user sends a script of editing instructions to sed, plus the name of the file to edit (or the text to be edited may come as output from a pipe).**
- **sed also works like a filter -- deleting, inserting and changing characters, words, and lines of text.**



## 11.2: SED Commands

### Line Addressing

**\$ sed -n '1,2'p file**

**Prints the lines from the file starting from line 1 to line 2**

**\$ sed -n '\$p' file : Prints the last line**

**\$ sed -n '1,2!p' file :Does not print these lines**

**\$ sed -n '/first/,/second/'p file**

**Prints the lines from the file starting from the first line containing the string first to the first line containing the string second**



## More Examples

- **sed nq file : Prints the first n lines from the file**
- **sed -n '1,2p**
- **7,9p**
- **\$p' file : Displays the selected sections.**
- **sed -n -e '1,2p' -e '7,9p' -e '\$p' file : Same as above.**



# Inserting and Changing lines

- **\$ sed '1i\**
- **hi\**
- **there\**
- **' file**
- **Inserts lines at the beginning of file**
  
- **\$sed 'a\**
  
- **' file**
- **Inserts after every line a blank line**
  
- **\$sed '1c\**
- **hi\**
- **there\**
- **' file**      **Changes the 1st line.**



# Context Addressing and Substitution

- **`sed -n '/first/p' file` : Displays lines with string first.**
- **`sed -n '/[fF]irsts*/p' file` : Displays lines which match for this regular expression.**
- **`sed 's/first/second/g' file` : While displaying the output, it substitutes the occurrences of string first to string second.**
- **`sed 's/^/hi/' file` : Substitutes at beginning of each line.**



# Writing and Deleting Lines

- **`sed -n '/first/w file1' file` : Writes lines with string first to file1**
- **`sed '/^$/d' file` : Deletes all blank lines.**
- **`sed -n -f sedfile file1 file2` : Takes instructions from 'sedfile' to operate on the list of files.**
  
- **`cat < sedfile`**
- **`1,2p`**
- **`7,9p`**
- **`^Z`**





## More examples

- **enclose parentheses around all numbers**
- **`sed 's/[0-9][0-9]*/(&)/' <infile >outfile`**
- **Find the numbers in the file and duplicate them in the file.**
- **`sed 's/[0-9][0-9]*/& &/' <infile`**
- **write lines beginning with an even number to a file**
- **`sed -n '/^[0-9]*[02468] /w even' <infile`**
- **count the number of lines not beginning with '#'**
- **`sed -n '/^#.*!/p' infile | wc -l`**



## More examples

- **delete the numbers on line number 3**
- **`sed '3 s/[0-9][0-9]*//' < infile > outfile`**
- **Delete the number on all lines starting with '#'**
- **`sed '/^#/ s/[0-9][0-9]*//` < infile`**
- **If you want to look at the first 10 lines of a file, you can use:**
- **`sed '11,$ d' <infile`**
- **which is similar in function to the head command.**
- **If you want to chop off the header of a mail message, which is everything up to the first blank line, use:**
- **`sed '1,/^\$/ d' <infile`**



# Invoking SED using script file

- **Create a script file with long editing instructions to perform task on an input file.**
- **The sed command will then be used as:**
- **sed -f scriptfile file**
- **For Example,**
  - *sed -f sedsrc text*
  - *sedsrc* – script file contains editing instructions.
  - *text* – input file consists of data.

## SUMMARY

- Commands used to process the data.
  - Command line instruction
  - Script file based instruction

# Review Questions

- Question 1: What is the use of -n in sed?
- Question 2: How to print 3rd and 5<sup>th</sup> line?

