

5 years Integrated M.Sc. (IT) (Semester - 4)
Practical List-060010410: CC12-Linux and Shell Programming

Practical No: 5	Enrollment Number:
Problem Statements:	
<ol style="list-style-type: none"> Write a command to display first line from file1. Write a command to display last five lines from file2. Write a command to display lines from 5th to 10th. Write a command to copy file data1.txt to data2.txt using head/tail. Write a command to copy file abc.txt to pqr.txt using cat command. Write a command to copy the first line of file1 to file2. Write a command to count the number of characters in the second line of file unix.dat. Write a command to count number of word in last line of file unix.dat. Write a command to change all lowercase letters to uppercase of file unix.txt. Write a command to delete all digits of file unix.txt. Write a command to change all uppercase to lowercase and lowercase to uppercase of file unix.txt. <p>Consider following data files emp.dat(empno; empname; deptno; designation, salary) parts.txt(partno, part name, city, rate) student(rollno name course semester city)</p> <ol style="list-style-type: none"> Write a command to sort emp.dat file on employee number. Write a command to remove all duplicate records from parts.txt file. Write a command to sort student file on course and semester. Write a command to check parts.txt file is sorted on partno filed. Write a command to sort parts in descending order of rate. Write a command to display roll number and name. Write a command to display semester wise student name in sorted order. Write a command to display only employee name in capital letters. Write a command to display employee number, name, designation and salary of department number 5. Write a command to display partno, part name and rate of parts having rate having decimal points. (for example 5.25) Write a command to display only part name ordered by part rate. Consider two sorted files males and females containing name. Write a command to merge name in sorted order. <p>Consider friendlist file contains list of friends name with duplicate entry. Note that file is not sorted.</p> <ol style="list-style-type: none"> Write a command to remove duplicate entry. Write a command to display duplicate entry of friendlist file. Write a command to sort friendlist file by ignoring leading blanks. 	
Objective(s)	To work with filters command and using pipe to create more complex commands
Duration for completion	3 Hours
Solution must contain	Commands
Nature of submission	Handwritten
Post laboratory questions	<ol style="list-style-type: none"> Write rules to use pipe with filters command. Differentiate between cmp and diff command. Explain comparing files utility in detail.

Objectives	Solution achieves the desire the desired objective(s)	Signature
To be able to work with filters command.		
To be able to work with pipe.		
To be able to compare files.		

Practical No: 6	Enrollment Number:
Problem Statements:	
<p>Write a command for the following (use filename as data.txt):</p> <ol style="list-style-type: none"> 1. To display the lines having exactly five characters. 2. To display the lines having at-least three characters. 3. To display the lines having at-least three alphabets. 4. To display the lines having fewer than five characters. 5. To display all non-blank lines. 6. To display the lines that does not have any alphabet. 7. To count number of blank lines. 8. To count number of lines. (using grep) 9. To display the line numbers of non-blank lines. (do not display content) 10. To display the lines containing sachin. 11. To display the lines start with digit. 12. To display the lines start with vowels. 13. To display the lines having 2nd character digit. 14. To display the lines that ends with full stop. 15. To display the lines that having two digit number. 16. To display the lines that contains sachin twice. 17. To display the lines having more than 50 characters. 18. To display the lines that has second character digit. 19. To display the lines that start with ^. 20. To display the lines that start with one or more blank spaces. 21. To display the lines that starts and ends with alphabet. 22. To display the lines whose first nonblank character is digit. 23. To display the lines having at-least five consecutive alphabet. 24. To display the lines that starts with consonant. 25. To display the lines that has exactly five characters. 26. To display the lines having valid integer number. (consider one line contain one number only) 27. To display the lines having only alphabets. 28. To display the lines having only digits. 29. To display the lines having valid enrolment number. 30. To display name of employee whose empno is 101 in emp.txt file. <p>write a sed command for the following:</p> <ol style="list-style-type: none"> 31. To delete first character from each line. 32. To delete 2nd last character from each line. 33. To delete 1st word from each line. 34. To swap first and second character from each line. 35. To display lines from line number 5 to 15. 36. To display line number before each line. 37. To double space a file. 38. To search unix and replace it with Linux. 39. To search and replace all "sachin" with "Tendulkar". 40. To replace 2nd occurrence of "cat" with "dog" 	
Objective(s)	To work with filters command and using pipe to create more complex commands
Duration for completion	4 Hours
Solution must contain	Commands
Nature of submission	Handwritten

Post laboratory questions	<ol style="list-style-type: none"> 1. Write a note on grep family. 2. Differentiate between grep and egrep? 3. List and give purpose of options supported by grep. 4. List atoms and operators supported by grep, egrep and fgrep. 5. List atoms and operators supported by sed. 6. Simulate following commands using grep/sed: <ol style="list-style-type: none"> a. cat file1 b. head -15 lines.txt c. tail +10 data.txt d. cp file1 file2 	
Objectives	Solution achieves the desire the desired objective(s)	Signature
To be able to use regular expression and grep and sed commands.		

Practical No: 7		Enrollment Number:			
Problem Statements:					
Consider following text files: dept(deptno, department name, managerid) emp(empno, employee name, deptno, basicsalary, city) (net salary=basic salary + DA + HRA – Income tax – Insurance, Consider DA 40%, HRA 5 %, Income tax 10% of basic salary, Insurance 500) Write following script with minimum looping structure. <div><div>1. Write a script to display all employee detail of department given as command line argument including net salary. Display detail in sorted order of salary.</div><div>2. Write a script to display department wise employee count.</div><div>3. Write a script to accept employee number as command line argument and display his complete detail including department name, manager name and net salary</div><div>4. Write a script to display employee details that are from given city. Enter city as command line argument. Display in order of employee number.</div><div>5. Write a script to display all manager information. Display in order of city.</div></div>					
Objective(s)		Student shall understand use of commands inside shell script and able to perform database kind of queries.			
Duration for completion		4 Hours			
Solution must contain		Shell scripts			
Nature of submission		Handwritten			
Post laboratory questions		<div><div>1. Can we give command output to loop? How?</div><div>2. Can we search name stored in variable using grep? How?</div></div>			
Objectives		Solution achieves the desire the desired objective(s)		Signature	
To be able to write complex shell scripts.					