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| Semester | S.E. Semester IV |
| Subject | Operating System |
| Subject Professor In-charge | Ms. Rasika Ransing |
| Laboratory |  |

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| Roll Number |  |

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| Experiment  Number | 01 |
| Experiment Title | Explore usage of basic Linux Commands and system calls for file and directory management. |
| Resources /  Required | Hardware: I/O Devices (Monitor, Keyboard, Mouse, CPU, RAM, etc.)  Software: UNIX OS/JSLinux |
| Objectives  (Skill Set /  Knowledge  Tested /  Imparted) | To execute basic Linux commands |
| Theory | Following are some Unix General Purpose Utility Commands:   1. **echo**   Use-echo command in Unix is used to display line of text/string that are passed as an argument . This is a built in command that is mostly used in shell-script to output text to the screen.  Syntax-echo [string]   1. **date**   Use-datecommand is used to display the system date and time.  Syntax-date   1. **cat**   Use-Cat(concatenate) command is very frequently used in Unix. It reads data from the file and gives their content as output. It helps us to create, view, concatenate files.  Syntax-   * + to create a file - cat > name\_of\_the\_new\_file   + to view a file - cat filename\_to\_be\_viewed  1. **history**   Use-historycommand is used to view the previously executed command.  Syntax-history   1. **ls**   Use- The command is used in listing contents inside a directory and is one of the few commands beginners learn from the onset.  ls commands in Linux and other parameters as well that may be used alongside the command.  Syntax- ls   1. **mkdir**   Use- mkdir command in Linux allows the user to create directories.  This command can create multiple directories at once as well as set the permissions for the directories.  Syntax - mkdir [directory name]   1. **cd**   Use- cd command in linux known as change directory command.  It is used to change current working directory, the root directory is the first directory in your filesystem hierarchy.  Syntax - cd [directory\_name]   1. **pwd**   Use-The pwd command writes to standard output the full path name of your current directory (from the root directory). All directories are separated by a / (slash). The root directory is represented by the first /, and the last directory named is your current directory.  Syntax – pwd   1. **rmdir**   Use- rmdir command is used remove empty directories from the filesystem in Linux. The rmdir command removes each and every directory specified in the command line only if these directories are empty. So if the specified directory has some directories or files in it then this cannot be removed by rmdir command.  Syntax - rmdir [directory name]   1. **cp**   Use- creates the copy of a file. It will create the new file in destination with the same name and content as that of the file ‘filename’.  Syntax - cp [source] [destination]   1. **mv**   Use- mv is used to move one or more files or directories from one place to another in a file system like UNIX. It has two distinct functions: a) It renames a file or folder. b) It moves a group of files to a different directory.  Syntax - mv [source] [destination]   1. **rm**   Use- deletes a file. It will remove the filename file from the directory.  Syntax - rm [filename]   1. **chmod**   Use- In Unix-like operating systems, the chmod command is used to change the access mode of a file. The name is an abbreviation of change mode. The references are used to distinguish the users to whom the permissions apply i.e. they are list of letters that specifies whom to give permissions.  Syntax - chmod [reference][operator][mode] file...   1. **wc**   Use- wc stands for word count. As the name implies, it is mainly used for counting purpose. It is used to find out number of lines, word count, byte and characters count in the files specified in the file arguments. By default it displays four-columnar output. First column shows number of lines present in a file specified, second column shows number of words present in the file, third column shows number of characters present in file and fourth column itself is the file name which are given as argument.  Syntax – wc filename   1. **grep**   Use- The grep filter searches a file for a particular pattern of characters, and displays all lines that contain that pattern. • The pattern that is searched in the file is referred to as the regular expression (grep stands for global search for regular expression and print out).  Syntax – grep [options] pattern [files]   1. **piping**   Use- A pipe is a form of redirection (transfer of standard output to some other destination) that is used in Linux and other Unix-like operating systems to send the output of one command/program/process to another command/program/process for further processing.  Syntax – command\_1 | command\_2 | command\_3 | .... | command\_N   1. **redirection**   Use- It is used to put output of a command in a file. Redirection is done using the ">" (greater-than symbol).  Syntax – command > filename   1. **sort**   Use- sort command is used to sort a file, arranging the records in a particular order. By default, the sort command sorts file assuming the contents are ASCII. Using options in the sort command can also be used to sort numerically.  Syntax – sort [options] filename   1. **head**   Use- The head command, as the name implies, print the top N number of data of the given input. By default, it prints the first 10 lines of the specified files. If more than one file name is provided then data from each file is preceded by its file name.  Syntax – head [OPTION] filename   1. **tail**   Use- The tail command, as the name implies, prints the last N number of data of the given input. By default, it prints the last 10 lines of the specified files. If more than one file name is provided then data from each file is preceded by its file name.  Syntax – tail [OPTION] filename   1. **tar**   Use- The Linux ‘tar’ stands for tape archive, which is used to create Archive and extract the Archive files. tar command in Linux is one of the important commands that provides archiving functionality in Linux. We can use the Linux tar command to create compressed or uncompressed Archive files and also maintain and modify them.  Syntax – tar [options] [archive-file] [file or directory to be archived] |
| Output | (Attach appropriate screenshots) |
| Conclusion |  |