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| **Keys to Use** | **What it does** |
| Arrow Up/Down | Display the previous commands from the more recent going to the oldest entered |
| Arrow Right/Left | Moves the cursor one character to the right/left |
| CTRL key + A | Transfers cursor to the beginning of the line |
| CTRL key + E | Transfers cursor to the end of the line |
| Delete key | The character under the cursor is deleted |
| Backspace | The character to the left of the cursor is removed |
| CTRL key + R | Search for a particular command from the command history. After you use CTRL key + R, type the first few letters of the command that you want to use |

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| **Commands** | **What it does** |
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| ls | List down all the contents of a director |
| cd /bin/ | Changes directory and goes to bin dir |
| cd ~ | the tilde (~) sign signifies the user’s home dir – change dir to home directory |
| cd. | Means to change directory one level up. For example, you are currently /home/edulaney/, using the command will take you to /home/ |
| mkdir | A command used to create directories |
| pwd | Short for present working directory. This command will display the directory where you are currently in. |

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| **Command** | **What it Does** |
|  | **Help Commands** |
| Info | Shows online information about a command |
| Man | Shows details of a command |
| whatis | Shows a short description of a specific keyword |
| Type | Shows the location of a command file |
| Alias | Assign a command alias – especially useful for long commands |
| unalias | Remove command alias |
|  | **Managing Files and Directories** |
| Cd | Change directory |
| Pwd | Displays the current directory |
| Ln | Create links to files and directories |
| touch | To trigger a file stamp update for a file |
|  |  |
| Finding Files |  |
| Find | Search for a file based on the name |
| whereis | Search for executable files |
| which | Search for files in the directories part of the PATH variable |
| **Processing Files** |  |
| Dd | Copy lines of data |
| Diff | Display the results of comparing two files |
| More | Show a text file one page at a time – display can only go forward |
| Less | Show a text file one page at a time – display can only go forward and backwards |
| Wc | Display the count of the number of characters, words, and lines in a file |
| Cat | Show a text file in one output |
| Cut | Get sections of text in a file |
| Grep | Display results of finding expressions in a file |
| Sed | Perform editing commands, then copy to a standard output |
| Split | Specify a size to break a file into |
| Sort | Arrange the lines in a file |
| Uniq | Keep unique lines in a file and delete duplicates |
| **Compressing a File** | |
| Compress | Use to compress a file |
| Uncompress | If a file was compressed with a *compress* command, use this to decompress |
| Gunzip | Use GNU Zip to decompress files |
| Gzip | Compress files with GNU Zip |
| Tar | Archive files with one or more directories |
| **Date and Time** | |
| Cal | Show the calendar for the specified month or year |
| Date | Show/Set the current date and time |
| **Managing Processes** | |
| Bg | Run a program or a process in the background |
| Free | Check for the free memory |
| Kill | Stop a process |
| Nice | Run a program with a low priority |
| Ps | Show current running processes |
| Top | Show list of CPU and memory utilization of processes |
| Reboot | Restart the computer |
| Shutdown | Turn off computer |

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| **Commands** | **What it does** |
| cat  */home/edulaney/files/file1.txt* | Command to print all the contents of file1.txt in the screen |
| cp */home/ /tmp/* | Copy contents of /home/ to /tmp |
| mv  */home/edulaney/files/file1.txt*  */tmp/* | Move the file file1.txt to the /tmp/ directory. You can also use this command to move the entire directory to another directory |
| rm *file1.txt* | Delete the file file1.txt. Take extra precaution in using the rm command, especially when you are logged in as root. |
| find */ -name “linux\*”* | The find command is a powerful tool that you can use when searching using the command line. The command here will search for any file or directory with a name that starts with *linux* |

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| **Top-Level Directory** | **Files that the directory contains** |
| / | Single root directory – file system base |
| /bin | Executable files such as Linux commands cat,cp,ls |
| /boot | Files that the boot loaders access during start-up – including the Linux kernel |
| /dev | Files for the different hardware/devices |
| /etc. | Initialization scripts and system config files |
| /home | User directories |
| /lib | Library files which includes driver modules |
| /lost+found | For lost files |
| /media | Mounting removal media filesystems |
| /mnt | Temporary directory for mounted filesystems |
| /opt | For storing application packages |
| /proc | Information on Linux processes |
| /root | Root user home directory |
| /sbin | Executable files for commands used by root user |
| /srv | For services hosted by the system (e.g. FTP, web) |
| /tmp | Temporary directory – deleted during system reboot |
| /usr | Contains subdirectories for program files |
| /var | Log files |

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| **Commands** | **What it does** |
| uname -a | This command displays information about the machine, the processor architecture, and the operating system details. Using the *-p* option will show you the machine processor name. An example is *i386* or *x86\_64 AMD Phenom (tm) II X3 700e Processor* |
| cat /proc/cpuinfo | This command returns more information about the system such as the number of CPUs and the CPU speed.    Sample output: |

Here are some commands that you can use to check the existing disk space on your computer:

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| **Commands** | **What it does** |
| df -h | This command displays the disk space usage in all of the mounted devices. The *-h* option presents the results in a humanreadable output, using G for gigabytes or M for megabytes sizes. |
| du */home/edulaney/files/* | This command displays all the files inside the specified directory and their corresponding file sizes. You can also specify a filename. |
| du -s */home/edulaney/files/* | The *–s* option provides the total file size of the specified directory |

r – permitted to read the file contents w – permitted to write on the file

x – permitted to execute (if the file contains a bash script)

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| **Permission** | **Representation** |
| rwx | 7 |
| rw- | 6 |
|  |  |
| r-- | 4 |
| r-x | 5 |
| --x | 1 |

**Table 11: Permission Values**

### Choosing A Text Editor

* **vi** – Usually installed by default. Preferred by administrators because it is a powerful editor that is small in size and flexible.
* **emacs** – contains a lot of features but is not beginner-friendly
* **pico** – simplified version of *emacs* (without the features)
* **nano** – a clone of *pico* but comes with features

**Figure 31: vi text editor**

Vi uses keys for commands. Here are some examples:

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| **vi Command** | **What it does** |
| O | Type this in command mode to insert a new line and enter text |
| I | Type I to insert succeeding character to the left side of the cursor |
| U | Undo changes |
| ESC | To quit insert mode |
| :wq! | To save your changes and quit |