- What is the difference between ‘apt’ and ‘apt-get’?

  They both are used to manage the packages. Apt-get is old and used for package management in the command line. APt is the new version of Apt-get. Apt is more user friendly and is present by default in most of the packages.

- What is the difference between ‘apt-get update’ and ‘apt-get upgrade’?

  The main difference in both of them is the actions they perform. apt-get update is used to update the list of available packages while apt-get upgrade is used to upgrade all the packages available to the new version.

- How to create a new user in the system?

  If I want to add a new user, radhika then I have to run this command.
  Sudo adduser radhika. Then it will ask for the password. Once we enter the password, a new user, radhika will be created.

- ‘mkdir’ gives an error if the directory is already present, how can you fix it?

  We can use -p in that case with the mkdir command . (mkdir -p existing/new/directory)

- What is .bashrc?

  It is a hidden file. We can see this file while typing the command ls -a in the terminal. If we want to see the content of this file then we can run the cat .bashrc command in the terminal. It has a lot of scripts with proper description.
  Gedit.bashrc will open this file in the edit mode and we can write any function there at the end of the file and then this function can directly be called from the terminal.
  Reference: https://www.youtube.com/watch?v=v0cu7tYD0qA

- How can we list out all the Environment Variables?

  Printenv or env commands can display environment variables.

- How can we add a new Environment Variable?

  $ sudo vim /etc/environment by this command we can add new variables.

- What is shell scripting?

  It is a method of creating programs from the terminal. WE give instructions and it keeps adding them.

USE CASES OF VARIOUS COMMANDS

- **Cd** is change directory command which is used to go inside directories
- (Cd ..) is used to go to the previous directory
- Ctrl +alt+T to open terminal
- Pwd- print working directory

- Ls- to list down the contents, It will show all the directories in the home.
  (ls + Folder name) for showing the files in that folder.
  (ls /) is used to show things in the root directory.
  (Ctrl + D) for exit
  (ls * txt or (ls *.*) for showing text files
  (ls Folder Name *txt)
  (ls ..) for showing previous directory
  (ls ../..) for two backward directories
  (ls -a) for showing hidden files
  Reference: https://www.youtube.com/watch?v=NEZMX_7lMks

- Mkdir- to create a new directory (Mkdir DirectoryName)
  (Mkdir DirectoryName/ subDirectory)
  (Mkdir -p DirectoryName/ subDirectory) to create all in one go
  (Mkdir -p DirectoryName/ subDirectory 1/sub Directory2)
  (Mkdir -p DirectoryName/ {subDirectory 1/sub Directory2/sub Directory3})
  for creating new directories in the same folder.
  (Man Mkdir) for showing all the options in Mkdir
  Reference: https://www.youtube.com/watch?v=rJ8t_z0DNMQ

- cat(concatenate and display files)- (Cat >Filename.txt) to create a new file or join two files. We can write the content in the file after creating it then close with ctrl+D. If we again run the same command like cat >file1.txt then the content will get deleted and we can write the new content in that again.
  - Cat command is also used for displaying the file content. To print the content we need to use cat fileName.txt.
  - To display the content of two files, we need to enter cat file1.txt file2.txt
  - Cat -n file1.txt will display the lines with the serial number.(it counts blank lines too)
  - Cat -b file1.txt will display the only count of the lines which has some content, it does not count the blank lines.
  - Cat -s file1.txt will remove the extra spaces between the lines and will only display a single line space.
  - We can append or concatenate two files by cat file1.txt >> file2.txt. In this file1 content will come into file2. First it will display file2 content then file1 content.
  - If we want to create a new file, which has content of all the other two files then we will use cat file1.txt file2,txt>>file3.txt

- If we want to append something in the same file then it can also be done by cat >>filename.txt then add the content.
- If we use only single > sign then it removes the previous data or content in the file but if we use double >> signs then old content remains there and we can add the new content in the same file too.

- apt(Advanced Packaging Tool)- used to install, delete and upgrade packages. apt-get can be used to:

    - Apt-get is used for
        Install new packages: apt-get install package_name
        Remove packages: apt-get remove package_name
        Update packages: apt-get update
        Upgrade packages: apt-get upgrade
        Search for packages: apt-cache search package_name
        Show package information: apt-cache show package_name
        Clean up the package cache: apt-get clean

- Dpkg- used to manage packages

- Kill- terminate processes on Linux

- Lsof- (LiSt Open Files) It is used to display information about open files and the processes that have them open.

- Netstat- used to display information about network connections, routing tables, and interface statistics.

- service vs systemctl- Service command is used to manage services on older linux distributions that use System V init system, while systemctl is used to manage services on newer distributions that use systemd init system.

- vim vs nano- vim is a powerful and highly configurable text editor that is often used by experienced users and programmers, while nano is a simpler and more user-friendly text editor that is often used by beginner and casual users.

- sudo vs normal user- sudo useful for performing tasks that require elevated permissions, such as installing software, modifying system files, and managing services and normal user is a non-privileged user who has limited access to the system and can only perform tasks that do not require elevated permissions.

- sudo su- it allows a user to temporarily switch to the root user.

- To create a new file, **touch** command is used.

- What is the difference between source and sh commands?

  These both commands are used to run a script on our computers. Source is a built in command while sh is not a built in command. Source is used to run a script in the current window while sh command opens a new window and then runs the script. So if we use source and make changes then it will affect the current window and changes will be made there but if we use sh command then changes will be done on the new window and will not affect the current window.

- What is the difference between ls and lsof?

  Ls command is used to list down the directories and files in our computer which are there whether we are using them in current time or not and lsof shows all the files which are currently open in our computer. Like different files open in our web browsers, apps etc

- How can you permanently set an environment variable using a bash terminal?

  When we type the pstree command in the terminal, it opens the process. The use top command to see top running processes then we need to type kill with the process ID which we will get from the top command. It will kill the process and close the terminal.

- Create two files “a.txt” and “b.txt”. Write a command to get the difference between the contents in two files.
  Here two folders can be made with cat >a.txt and cat>b.txt and we can write the contents in then then to find the difference between them we can use a command diff a.txt b.txt

- Create directories ./hello/world (World dir is inside hello dir) using mkdir command where neither hello or world exists. It should be a single command without the use of &&.
  Mkdir -p ./hello/world

RUNNING SCRIPT:

The command to run a shell script on visual scode- sh script.sh