***Question 1: Explain this following bash script:***

#!/bin/bash space\_free=$( df -h | awk '{ print $5 }' | sort -n | tail -n 1 | sed 's/%//' ) case $space\_free in

[1-5]\*) echo Plenty of disk space available

;;

[6-7]\*) echo There could be a problem in the near future

;;

8\*) echo Maybe we should look at clearing out old files

;;

9\*) echo We could have a serious problem on our hands soon

;;

\*) echo Something is not quite right here

;;

Esac

**Answer:**

Here is the correct code for the above that will run

#!/bin/bash

space\_free=$( df -h | awk '{ print $5 }' | sort -n | tail -n 1 | sed 's/%//' )

echo "Space Free is : $space\_free"

case "$space\_free" in

        [1-9]\* )

                echo Plenty of disk space available ;;

        [6-7]\* )

                echo There could be a problem in the near future ;;

        8\* )

                echo Maybe we should look at clearing out old files ;;

        9\* )

                echo We could have a serious problem on our hands soon ;;

        \* )

                echo Something is not quite right here ;;

esac

df -h would give the disk usage and space available in a tabular format.

| - Pipes are used to run the codes one after the other. Basically append it.

awk – searches any pattern, here awk ‘{ print $5 }’ prints the 5th column from the output of df -h

sort -n : sorts the output by number

tail -n 1 : displays the last numbers from the output, where -n denotes number 1 meaning the 1st from the tail which is end.

sed ‘s/*search string*/*replacement string*/’ : sed searches a pattern of string and replaces the search string with replacement one in a file.

Here we are replacing % with nothing in the search outcome.

Case syntax is similar to switch-case of any programming language where case ‘variable’ in finds the value of the variable on the underlying cases.

Here are the different cases:

[1-9]\*) If space\_free starts with a digit between 1 and 9, the script prints "Plenty of disk space available".

[6-7]\*) If space\_free starts with a digit between 6 and 7, the script prints "There could be a problem in the near future".

8\*) If space\_free starts with an 8, the script prints "Maybe we should look at clearing out old files".

9\*) If space\_free starts with a 9, the script prints "We could have a serious problem on our hands soon".

\*) If space\_free does not match any of the above cases, the script prints "Something is not quite right here".