**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 near future"

;;

8\*)

echo "maybe we should look at clearing out old files"

;;

9\*)

echo "we could have a serious issue on our hand soon"

;;

\*)

echo "somehting is quite not right here"

;;

esac

**Analysis:**

The above script is used to check the disk status on a linux based operating system.

Here we see space\_free is a variable that will be assigned value of disk space usage (the variable name should be ‘space\_used’ or ‘disk\_usage’).

* The script is able to find the current disk status by running **df -h** command which contains a column “usage”.
* Now the script uses **awk** command to access that specific column, “usage” column here in our case.
* Using **sort** command, the script sorts all the disk usage values in ascending order (ascending as we used **-n**)
* The **tail** command helps to pick the values from last of the list, and here we mention “1” to get just single value, which will be the highest disk usage.
* Finally we use **sed** command to edit the output format by removing “%” symbol.

The value received in space\_free variable is then passed to switch case where we are matchin the 10’s place of space\_free value. i.e if space\_free = 28, we would match 2, that would lie into first condition and a appropriate response is printed out.

Lastly script has kept a default case if none of the case matches.