***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

***Explanation:***

The above bash script gives us a warning based on the disk space available.

* df -h : df is used to find out the amount of disk space available, -h option here indicates linux to include all file sizes in a human readable format
* awk : scans a file and produces formatted reports, $5 gives the 5th record from the df’s output
* tail -n 1 : to print the last line
* sed ‘s/%//’ : stands for stream editor used to find, replace, search, insert or delete and
* option s/%// is used to substitute for % and replace it with /

Hence, the above script calculates the amount of free space on the system. It does this by using df -h and awk to pull out the number of gigabytes from each line, then sorting them in order and taking only the last one. The last number is used as an indicator for how much disk space is available and echo’s corresponding output according to the case statement.