

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 -

This command uses several tools to display the usage of the disk space on a Linux system. The **df** command is used to show the amount of disk space used and available on the system. The output of this command is then piped to **awk**, which is used to print only the fifth column of the output, which is the percentage of disk space used on each mounted file system. The output from **awk** is then piped to **sort**, which sorts the output numerically. The **-n** flag tells **sort** to sort the output numerically. The output from **sort** is then piped to **tail**, which is used to show only the last line of the output. Finally, the output from **tail** is piped to **sed**, which is used to remove the % sign from the output.

In summary, this command shows the percentage of disk space used on the file system with the highest usage.