

**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**

First line is typically shebang

Second line is to get available free size on disk

From line 3-11 we are using case to print the status of disk based on size

[1-5]\*) this block will get executed if first digit of \$space\_free variable comes under 1 to 5

[6-7]\*) this block will get executed if first digit of \$space\_free variable is 6 or 7

8\*) this block will get executed if first digit of \$space\_free variable is 8

9\*) this block will get executed if first digit of \$space\_free variable is 9

\*) this block will get executed if first digit of \$space\_free is not between 1 to 9