



4. [5 pt] Describe the structure of Unix, showing different components starting from hardware to the user.

5. [4 pt] You are given a file named `foobar`. You have to search for a pattern `color` in this file. However, the user does not want to see any error messages or even the line that may contain the pattern. All the user wants printed on screen is either of the two following lines:

```
foobar contains color.  
foobar does not contain color.
```

How will you achieve this?

6. [8 pt] You are given a variable called `fubar` in `ksh`. Write commands to do the following: Find out if the variable is instantiated. If it is not instantiated, print a message saying so on `stderr`. If it is instantiated, find out if it is a number. If it is a number, add 2 to it and print its value after addition.

7. [4 pt] How do you delete a paragraph in `vi`?