

Answers should be to the point and concrete.

1. Is the following a vision-statement or is it a requirement? Why?

"Design a tool that would give software designers something they have not been exposed to and they could not even imagine."

- It is vague; it is not testable; no criteria to evaluate the tool; not specific enough; does not give details; does not give project goals; describes no problem; does not describe the tools responsibilities; does not give the requirements; ...
- *Does not give input, output, or functionalities.*

2. Who should be involved in developing requirements and why?
[5+5].

3. Once the requirements are developed, when do we look at them again? What is the difference between verification and validation?
[7+8]

4. For some computers, the 3-key combination control-alt-delete is used for initiating the login-process after the power is turned on. State some requirements for the key-combination to be used for initiating the login-process, critique the key combination control-alt-delete, and give your own solution key-combination. [5+5+5]

- One should have a functioning keyboard.
 - It should be a 3-key combination; no other key should be pressed.
 - CTRL + Alt should be pressed down before Delete.
 - Screen should make user aware that CNTL + ALT + DELETE is the key combination.
 - The keys should be far apart to avoid accidental pressing.
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- + 2-key solution: Esc (fi rst) + Enter (next)
 - + Shift + Tab + Enter
 - + Long press (2 secs or more) of Esc
 - + It is the right key combination, or use CNTL + ALT + L, or use ALT + L.
 - + Skip this whole process; go directly to login/password menu.

5. Consider the menu-design problem for a small breakfast-type place which serves some beverages and some main-items; the customer fills up the menu and hands it to the person at the counter to order his breakfast. There are the following two cases:
- (1) One can choose a small or large servings for each item,
 - (2) Some items come in large portions, but one cannot choose a smaller serving for them.

Show an appropriate menu design for each case. Briefly justify your design. [15+15]

6. What problems do you see with the requirement-statement "Write a program to count the number of words in a text file and the number of characters in those words." [10]

4. Briefly describe the waterfall-model; why is it called so? [10]

OR

Give a good elevator control-panel design (including their placement) for a 3-floor building with 2 elevators and which houses about 100 persons (many of whom are elderly). [10]