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Assignment1: A1Q1

Question 1: Short Answer Questions

1. The early programmers had to know every aspect of the computer from the hardware to the programming language. To create the getChar function, the programmer was required to know how to manipulate the physical keyboard. Once the programmer developed the getChar function, he could reuse this function, combine it with encapsulation and eventually develop more complex functions such as creating strings. Eventually the programmer could hide the hardware-related knowledge of how to access a single character. From then on, the user did not need to have sophisticated knowledge (ie. how the program compiles, how encapsulation works, and how the assembler interacts with the hardware) to create a string.

This resembles software systems in the sense that the user does not need to know how every aspect of the system in order to make the system function. However, both the String function and software systems exist only because of the individual parts within each function and system. The String function requires every layer to work together in order for the String function to exist. Similarly, each aspect of a software system can not function alone, but all together they work as a unified entity.

1. The Linux Documentation Project Manifesto provides a free database of tutorials and it tries to fill in any questions that Unix users face. Their goal is not only to create documentation of different aspects of GNU and Unix Systems, but they want to create a database of all published documentation about all issues or questions Unix-users have.
2. I believe that the three countries with greatest amount of Linux users are:

- China (7.2 mil Internet users)

- India (4.62 mil Internet users)

- United States of America (2.86 mil Internet users)

According to the <https://www.linuxcounter.net/statistics>, 99% of Linux users have access to Internet, thus countries with the greatest amount of Internet users are more likely to hold the greatest number of Linux users. Although the website says that the greatest number of users is USA (16,482), Brazil (10,078) and Germany (6,756), these are statistics for the greatest number of registered users. However, taking into account that many Linux users are not registered, I feel that it is more likely that the countries with the greatest number of Internet users will have a higher number of (registered and unregistered) total Linux users.

1. Vi, Vim, Emacs, and Pico are all command line text editors that allow the user to access, edit or create files. Vi is a text editor that is fast and simple. Vim is a more updated version of Vi. Pico is a text editor intended for email composition, so it does not have as many features as Vi, but it is simpler. Emacs is a more robust program with the greatest number of features of the four text editors.
2. Active Online User Communities:

Vim: vim.org and vim.wikia.org

Vi: vi.stackexchange.com (unofficial)

Emacs: emacs.stackexchange.com (unofficial)

Pico: cnebucto.ns.ca/Help/Editor/index.shtml (inactive)

1. Taken from vim.org – Testimonials (paraphrased)

<http://vimdoc.sourceforge.net/htmldoc/quotes.html>

Reasons why Vim is preferred for Vim users:

- Vi’s maps became obsolete so they switched to Vim which they found to be more powerful.

- Vim has the best and highest quality of open software

- Vim is consistent across many platforms

- Vi is like an old Ferrari, Vim is a new model Ferrari that everyone wants

- Vim has well thought-out defaults that the user did not need to change anything

- Vim’s features such as swap file and back up possibilities make it robust

- Vim is compatible with Vi which offers an easy transition from Vi to Vim

- Vim is short, fast, powerful, has a good interface and is all purpose

- Overall, Vim has better keyboard layout, memory usage, and text alteration than Emacs

Reasons Vim is better than Emacs:

- Emacs has incompatible versions, flaky contributed packages and has disorganized keystrokes

- Emacs takes too long to start up

- Emacs is big and bulky and its interface is too confusing