

**Question 1: Short answer questions**

*1. Give a definition for the term Software System, as seen from our class lectures.*

A software system is a collection of different and distinct subsystems that work together to fulfill the user's needs. These subsystems do not need to be written in the same language, run on the same operating system, or even run on the same machine when networking is possible. In fact, they need not be programs; subsystems can also be files and user data. Most modern applications are software systems.

*2. Why is Unix considered to be a system?*

Unix is a system because operating systems are systems. Operating systems are so named because they are a system of subsystems such as the User Interface, disk management, and process management all working together to fulfill the functions of an OS.

*3. Google "Linux Documentation Project Manifesto" and for this question, summarize the manifesto in one or two sentences.*

The Linux Documentation Project (LDP) seeks to create a complete, in-depth, and openly-accessible collection of GNU and Linux-related documents. The initiative is staffed entirely by volunteers and publishes its documents for use-free-of-charge over the internet.

*4. Browse the <http://linuxcounter.net> web page. Identify the three top Linux using countries.*

As a percentage of total population, or in terms of Linux users per capita, the top ranking countries are, in decreasing order, Pitcairn Islands (48%), Cocos Islands (5.89%), Antarctica (5.4% - not actually a country, and the Vatican City State (5.2% actually a country).

In absolute terms, the top ranking countries are, in decreasing order, the USA (13,632), Brazil (8,288), and Germany (5,755).

*5. What are Vi, Vim, Emacs, and Pico?*

Vi – an early command-line text editor program created for Unix.

Vim – an improved version of Vi with more features including regular expressions

Emacs – another text editor that began with a command-line interface on Unix that can be customized with Lisp macros, many variants and descendants still in active development.

Pico – another text editor for Unix on the command-line with fewer features than Vi/Vim/Emacs, but is easier to learn.

*6. Using Google identify which tools Vi, Vim, Emacs, and/or Pico have an active online user community. Identify this by writing down one example URL.*

Vim and Emacs still have sizable online communities while Pico and Vi do not. A variant of Emacs created by the GNU OS community (a variant of Linux) has a development page here:

<http://www.gnu.org/software/emacs/>

*7. Given the information in the URL of the active user community you identified above, why do they support the tool?*

The GNU OS community supports Emacs primarily because:

1. It provides a free, open text editor loaded with many useful features for the GNU OS.
2. Includes an interpreter for Emacs Lisp, a dialect of the Lisp language, making it useful for creating software solutions.