

Practical - 3

BASIC UNDERSTANDING ON FREE AND OPEN-SOURCE SOFTWARE

A) Describe Open-Source Software with Example:

Open source refers to a software program or platform with source code that is readily accessible and which can be modified or enhanced by anyone. Open source access grants users of an application permission to fix broken links, enhance the design, or improve the original code. Open source practices can also lead to considerable savings, with many open source offerings provided to consumers for free, relying instead on a shareware or donation model.

Open-source software development can bring in diverse perspectives beyond those of a single company. A 2008 report by the Standish Group stated that adoption of open-source software models has resulted in savings of about \$60 billion per year for consumers.

Open source code can be used for studying and allows capable end users to adapt software to their personal needs in a similar way user scripts and custom style sheets allow for web sites, and eventually publish the modification as a fork for users with similar preferences, and directly submit possible improvements as pull requests.

There are many examples of open-source software some of them are listed below, with many popular applications allowing improvements and modifications from users. While not all of the changes and improvements made by programmers will be made available to the general public, the ability to work with these source codes can be educational and fun for some.

- LibreOffice
- GNU/Linux
- VLC Media Player
- Mozilla Firefox
- GIMP
- VNC
- Apache web server
- JQuery

B) Describe Free Software with Example:

Free software is software that can be freely used, modified, and redistributed with one caveat: any redistributed version of the software must be distributed under the same terms as the original software (known as copyleft). The Free Software Foundation and the GNU Project have agreed on a definition of free software. Free software can be packaged and distributed for free; the "free" refers to the ability to reuse it as part of another software package, modified or unmodified. Users of free software may have access to and study the source code as part of their ability to modify it.

The right to study and modify a computer program entails that source code—the preferred format for making changes—be made available to users of that program. While this is often called "access to source code" or "public availability", the Free Software Foundation (FSF) recommends against thinking in those terms, because it might give the impression that users have an obligation (as opposed to a right) to give non-users a copy of the program.

Thus, free software means that computer users have the freedom to cooperate with whom they choose, and to control the software they use. To summarize this into a remark distinguishing *libre* (freedom) software from *gratis* (zero price) software, the Free Software Foundation says: "Free software is a matter of liberty, not price. To understand the concept, you should think of 'free' as in 'free speech', not as in 'free beer'".(See *Gratis versus libre*.)

The concept of free software is the brainchild of Richard Stallman, head of the GNU Project. The best known example of free software is Linux, an operating system that is proposed as an alternative to Windows or other proprietary operating systems. Debian is an example of a distributor of a Linux package.

The Free Software Directory maintains a large database of free-software packages. Some of the best-known examples include the Linux kernel, the BSD and Linux operating systems, the GNU Compiler Collection and C library; the MySQL relational database; the Apache web server; and the Sendmail mail transport agent. Other influential examples include the Emacs text editor; the GIMP raster drawing and image editor; the X Window System graphical-display system; the LibreOffice office suite; and the TeX and LaTeX typesetting systems.

C) Difference between Free and Open Source Software:

Free Software	Open Source Software
Free Software usually refers open source under GNU GPL license. Because the word free in English means cost the terms open source was created.	Your source code is accessible to anyone to read and modify and redistribute depending on license conditions. Publishing source code online without the public being able to modify them doesn't make lots of sense.
Software is an important part of people's lives.	Software is just software. There are no ethics associated directly to it.
Software freedom translates to social freedom	Ethics are to be associated to the people not to the software.
Freedom is a value that is more important than any economical advantage.	Freedom is not an absolute concept. Freedom should be allowed, not imposed.
Examples: The Free Software Directory maintains a large database of free-software packages. Some of the best-known examples include the Linux kernel, the BSD and Linux operating systems, the GNU Compiler Collection and C library; the MySQL relational database; the Apache web server; and the Sendmail mail transport agent.	Examples: Prime examples of open-source products are the Apache HTTP Server, the ecommerce platform osCommerce, internet browsers Mozilla Firefox and Chromium (the project where the vast majority of development of the freeware Google Chrome is done) and the full Office suit Libre Office