Practical 3

BASIC UNDERSTANDING ON FREE AND OPEN-SOURCE SOFTWARE

A) Describe Open Source Software with Example.

Ans: The term open source refers to something people can modify and share because its design is publicly accessible. Open source software is software with source code that anyone can inspect, modify, and enhance. Open source-software(OSS) is a type of computer software in which source code is released under a license in which the copyright holder grants users the rights to use, study, change, and distribute the software to anyone and for any purpose.

"Source code" is the part of software that most computer users don't ever see it's the code computer programmers can manipulate to change how a piece of software a "program" or "application" works. Programmers who have access to a computer program's source code can improve that program by adding features to it or fixing parts that don't always work correctly. Open-source software may be developed in a collaborative public manner. Open-source software is a prominent example of open collaboration.

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 (£48 billion) per year for consumers. While the Open Source Initiative sought to encourage the use of the new term and evangelize the principles it adhered to, commercial software vendors found themselves increasingly threatened by the concept of freely distributed software and universal access to an application's source code.

Criteria of Open Source Software:

1. Free Redistribution:-The license shall not require a royalty or other fee for such sale.

2. Source Code:-The program must include source code, and must allow distribution in source code as well as compiled form.The source code must be the preferred form in which a programmer would modify the program.

3. Derived Works:The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software.

4. Integrity of The Author's Source Code:The license must explicitly permit distribution of software built from modified source code. The license may require derived works to carry a different name or version number from the original software.

5. No Discrimination Against Persons or Groups:-The license must not discriminate against any person or group of persons.

6. No Discrimination Against Fields of Endeavor:-The license must not restrict anyone from making use of the program in a specific field of endeavor. For example, it may not restrict the program from being used in a business, or from being used for genetic research.

7. <u>Distribution of License</u>:-The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties.

8. <u>License Must Not Be Specific to a Product</u>:-The rights attached to the program must not depend on the program's being part of a particular software distribution. If the program is extracted from that distribution and used or distributed within the terms of the program's license, all parties to whom the program is redistributed should have the same rights as those that are granted in conjunction with the original software distribution.

Examples of Open Source Software are:-

1. Firefox a Web browser that competes with Internet Explorer.
2. OpenOffice a competitor to Microsoft Office.
3. Gimp a graphic tool with features found in Photoshop
4. Alfresco collaboration software that competes with Microsoft Share-point and EMC's Documentum.
5. Market cetera an enterprise trading platform for hedge fund managers that competes with Flex Trade and Portware

B) Describe Free Software with Example.

Ans: "Free software" means software that respects users' freedom and community. Roughly, it means that the users have the freedom to run, distribute, study, copy change and improve the software. Thus, "free software" is a matter of liberty, not price. To understand the concept, you should think of "free" as in "free speech,". We sometimes call it "libre software," borrowing the French or Spanish word for "free" as in freedom, to show we do not mean the software is gratis.

We campaign for these freedoms because everyone deserves them. With these freedoms, the users (both individually and collectively) control the program and what it does for them. When users don't control the program, we call it a "nonfree" or "proprietary" program. The nonfree program controls the users, and the developer controls the program; this makes the program an Instrument of unjustice power.

A program is free software if the program's users have the four essential freedoms:

1. The freedom to run the program as you wish, for any purpose.

2. The freedom to study how the program works, and change it so it does your computing as you wish. Access to the source code is a precondition for this.

3. The freedom to redistribute copies so you can help others.

4. The freedom to distribute copies of your modified versions to others.

5. By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.

Examples of Free software are:-

1. The Linux kernel: The Linux kernel is protected by the GPL, and is used daily by millions of people throughout the world. As the kernel, it is one of the most important components of the GNU system.
2. Apache: The most widely used web server in the world. More than 56% of the web servers on this planet use Apache; far more than its fierce competitors, Microsoft and Netscape.
3. The Gimp: The gimp is a powerful bitmap mode digital creation program. In spite of being relatively new, The Gimp has rapidly become serious competition for Photoshop.
4. Postgre SQL: Postgre SQL is an object-relational database. It is currently the most sophisticated free software database available.

C) Difference between Free and Open Source Software.

Ans:

Sr.no.	Free Software	Open Source Software
1.	Free software means software that respects user's freedom and community. Roughly, it means that the users have the freedom to run, copy, distribute, study, change and improve the software. The term free software is sometimes misunderstood it has nothing to do with price. It is about freedom.	Open Source Software is something which you can modify as per your needs, share with others without any licensing violation burden. When we say Open Source, source code of software is available publicly with Open Source licenses like GNU (GPL) which allows you to edit source code and distribute it.
2.	Software is an important part of people's lives.	Software is just software. There are no ethics associated directly to it.
3.	Software freedom translates to social freedom.	Ethics are to be associated to the people not to the software.
4.	Freedom is a value that is more important than any economical advantage.	Freedom is not an absolute concept. Freedom should be allowed, not imposed.
5.	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 Send mail transport agent.	Examples: Prime examples of open source products are the Apache HTTP Server, the e-commerce 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 suite LibreOffice.