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Practical 3

BASIC UNDERSTANDING OF FREE AND OPEN-SOURCE SOFTWARE.

1) Describe Open Source Software with example.

Ans:-   Open source software is a type of computer software in which source code is released under a license in which the copyright holder grants users the right to use, study, change, and distribute the software to anyone and for any purpose.

The term Open Source refers to something people can modify and share because its design is publicly accessible.

"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 is useful for both programmers and non-programmers.

The term originated in the context of software development to designate a specific approach to creating   computer programs. Today, however," Open Source" designates a   broader set of values – What we call "the Open Source way." Open Source projects, products, or initiatives embrace and celebrate principals of open exchange, collaborative participation, rapid prototyping, transparency, meritocracy, and community-oriented development .

The distribution terms of Open-source software must follow following criteria:

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

B) Derived Works :- The license must allow modification and derived works, and must allow them to be distributed under the same teams as the license of the original software.

C) NO Discrimination Against Persons or Group :- The license must be discriminate against any person or group of persons.

D) Distribution of license :- 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.

E) License Must not be specific to a product :- The rights attached to the program must not depend on the program's being part of a particular software distribution.

F) Integrity of The Author's source code :- The license may require derived works to a carry a different name or version number from the original software.

Examples of Open Source Softwares:-
a) Linux Operating system
b) Android by google
c) Open office
d) Firefox browser
e) VCL media player
f) Moodle
g) Clamwinantivirus.
h) Wordpress content management system.

2) Describe free software with an example.
Ans :- "Free software" means software that respects users freedom and community. Roughly, it means thar the users have the freedom to run, copy, distribute, study, change, and improve the software. Thus , "Free software" is a matter of liberty, not price.

Four essential freedoms :-
 A program is free software if the program 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. 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.

The concept of "free software" was developed by Richard Stallman in the 1980s. The focus is on what the recipient of software is permitted to do with the software: "Roughly, it means that the users have the freedom to run, copy, distribute, study, change, and improve the software.

Followings are the example of Free Source Software:-

Today, free software covers just about every field of computer applications. Because of their high quality and openness, several free software programs have become leaders in their field or comprise the core of of an entire industry.

The Linux kernel, of course! 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 ;

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 ;

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 ;

PostgreSQL is an object-relational database. It is currently the most sophisticated free software database available.

3) Difference between open source software and free software.

Sr.no.	Free software	Open software
1	Free Software means software that respect users freedom and community.	Open source software is something which you can modify as per your needs, share with orhers without any licensing violation burden.
2	This software is an important part of prople's lives	This software is just a software. There are no ethics associated directly to it.
3	Software freedom translates to social freeom.	Ethics are to be associated to the people not to the software.
4	Freedom is a value that is more important than any economical advantages.	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	Examples :- Prime examples of open-source product are the apache HTTP server, the e-commerce platform osCommerce , internet

	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.	browers Mozilla Firefox and Chromium and the full office suite LibreOffice.