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PRACTICAL 3:-

BASIC UNDERSTANDING ON FREE AND OPEN-SOURCE SOFTWARE

1. Describe Open Source Software with Example.

→ Open-source software (OSS) is any computer software that's distributed with its source code available for modification. That means it usually includes a license for programmers to change the software in any way they choose: They can fix bugs, improve functions, or adapt the software to suit their own needs

While its lack of cost is a key advantage, OSS has several additional benefits:

- Its quality can be easily and greatly improved when its source code is passed around, tested, and fixed.
- It offers a valuable learning opportunity for programmers. They can apply skills to the most popular programs available today.
- It can be more secure than proprietary software because bugs are identified and fixed quickly.
- Since it is in the public domain, and constantly subject to updates, there is little chance it can become unavailable or quickly outmoded—an important plus for long-term projects.

Open-source technologies helped establish much of the internet. Furthermore, many of the programs in use every day are based on open-source technologies. Cases in point: Android OS and Apple's OS X are based on the kernel and Unix/BSD open-source technologies, respectively.

Other popular open-source software is:

- Mozilla's Firefox web browser
- Thunderbird email client
- PHP scripting language
- Python programming language
- Apache HTTP web server

2. Describe Free Software with Example

→ Free software is software that can be freely used, modified, and redistributed with only one restriction: any redistributed version of the software must be distributed with the original terms of free use, modification, and distribution (known as copyleft). The definition of free software is stipulated as part of the GNU Project and by the Free Software Foundation. Free software may be packaged and distributed for a fee; the "free" refers to the ability to reuse it, modified or unmodified, as part of another software package. As part of the ability to modify, users of free software may also have access to and study the source code.

Free software is easily confused with freeware, term describing software that can be freely downloaded and used but which may contain restrictions for modification and reuse.

Best Free software at a glance:

1. LibreOffice
2. VLC Media Player
3. GIMP
4. Shortcut
5. Brave
6. Audacity
7. KeePass
8. Thunderbird
9. FileZilla
10. Linux

3. Difference between Free and Open Source Software.

→ **Free Software:**

“Free software” means software that respects users’ 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 :

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. Read these licenses and you will realize that these licenses are created to help us.

- Coined by the development environments around software produced by open collaboration of software developers on the internet.
- Later specified by the Open Source Initiative (OSI).
- It does not explicitly state ethical values, besides those directly associated to software development.

S.No.	Free Software	Open Source Software
1.	<p>“Free software” means software that respects users’ 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</p>	<p>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</p>
2.	Software freedom translates to social freedom.	Ethics are to be associated to the people not to the software.

3.	Freedom is a value that is more important than any economical advantage.	Freedom is not an absolute concept. Freedom should be allowed, not imposed
4.	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 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.