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Roll No:- 27 Class:- FYCS

Subject:- IT TOOLS

Practical 3:- Basic understanding on FREE SOFTWARE and OPEN SOURCE SOFTWARE.

A) Describe Open Source Software With Example:-

Definition:

1) Open-source software is a program that has publicly available code which anyone with technical expertise can use, modify and distribute.
2) 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.
3) They can fix bugs, improve functions, or adapt the software to suit their own needs.
4) The term open source refers to something people can modify and share because its design is publicly accessible.

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 principles of open exchange, collaborative participation, rapid prototyping, transparency, meritocracy, and community-oriented development.

Open source software is released through a specific kind of license that makes its source code legally available to end-users. There are many such licenses but typically software is considered open source. It is available in source code form without additional cost, meaning users can view the code that comprises the software and make any kind of changes to it they want.

The source code can be repurposed into other new software, meaning anyone can take the source code and distribute their own program from it.

Advantages:

1) Its quality can be easily and greatly improved when its source code is passed around, tested, and fixed.
2) It offers a valuable learning opportunity for programmers.
3) They can apply skills to the most popular programs available today.
4) It can be more secure than proprietary software because bugs are identified and fixed quickly.
5) 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.

Dis-Advantages:

1) Some open source applications may be tricky to set up and use. Others may lack user-friendly interfaces or features that user may not be familiar with.
2) Many types of proprietary hardware need specialized drivers to run open source programs, which are often only available from the equipment manufacturer.
3) Open source software licenses typically contain only limited warranty and no liability or infringement indemnity protection.
4) Software that is free up-front but later costs money to run can be a major burden, especially if you haven't considered hidden costs from the outset.
5) Vulnerable to malicious users.

Licenses Used:

Different licenses allow programmers to modify the software with various conditions attached. According to the Black Duck Knowledge Base, a database of some two million open source projects, five of the most popular licenses are:

1) MIT License
2) GNU General Public License (GPL) 2.0
3) Apache License 2.0
4) GNU General Public License (GPL) 3.0
5) BSD License 2.0 (3-clause, New or Revised)

Example's:

1) LINUX

2) ANDROID

3) CHROMIUM

4) WORDPRESS

5) OPEN OFFICE

6) PYTHON

7) ClamWin ANTIVIRUS

B) Describe Free Software With Example:-

Definition:

1) Free software (or libre software) is computer software distributed under terms that allow users to run the software for any purpose as well as to study, change, and distribute it and any adapted versions.
2) Free software is a matter of liberty, not price, all users are legally free to do what they want with their copies of a free software (including profiting from them) regardless of how much is paid to obtain the program.
3) Computer programs are deemed "free" if they give end-users (not just the developer) ultimate control over the software and, subsequently, over their devices.
4) “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. Thus, “free software” is a matter of liberty, not price.
5) To understand the concept, you should think of “free” as in “free speech,” not as in “free beer”. 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.
6) The free software definition presents the criteria for whether a particular software program qualifies as free software.
7) “Free software” does not mean “noncommercial”.
8) On the contrary, a free program must be available for commercial use, commercial development, and commercial distribution. This policy is of fundamental importance—without this, free software could not achieve its aims.

Advantages:

1) Available at minimal cost.
2) Provides full freedom for editing.
3) No imposed upgrades.
4) No spying on users.
5) Auditability and Provides better security.
6) Provides better security
7) No monopolies
8) Truly user-oriented
9) No lock-in standards
10) Part of social movement

Dis-Advantages:

1) No Guaranteed Support: Some free software programs don't have a large user base, and therefore the user support for certain programs can be lacking or nonexistent
2) Inconsistent Updates: Since many members of the free software community develop the code in their spare time as unpaid volunteers, there is a chance that some of the program.
3) No Guaranteed Support: Some free software programs don't have a large user base, and therefore the user support for certain programs can be lacking or nonexistent
4) Varying Interfaces: Some free software programs have a much different user interface than their commercial counterparts, and can have a steep learning curve.
5) Lack of Support And Documentation: Unfortunately most free or open source software is provided without support. This means that if you have a problem with the software the developer might or might not feel like helping you with that problem. (I say might because some people do help their users even though there is no financial benefit.)
6) Advertising Banners: When the software is freely available, often developers will use advertising banners placed in the software which can possibly make money.
7) Developer Loses Interest: Some awesome geeks come up with fantastic software but they often lose interest or simply have no time to update or develop the software further.

Licenses Used:

Unless the applications' licenses are compatible, combining programs by mixing source code or directly linking binaries is problematic, because of license technicalities. Programs indirectly connected together may avoid this problem.

The majority of free software falls under a small set of licenses. The most popular of these licenses are:

1) The MIT License
2) The GNU General Public License v2 (GPLv2)
3) The Apache License
4) The GNU General Public License v3 (GPLv3)
5) The BSD License
6) The GNU Lesser General Public License (LGPL)
7) The Mozilla Public License (MPL)
8) The Eclipse Public License

Example's:

1) MOZILLA FIREFOX

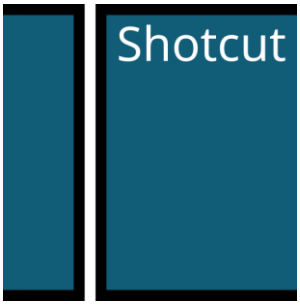
2) LIBRE OFFICE

3) THUNDER BIRD

4) GIMP

5) AUDACITY

6) SHORTCUT



7) INKSCAPE

C) Difference between Free Software and Open Source Software:-

OPEN SOURCE:

1) Software is just software. There are no ethics associated directly to it.
2) Ethics are to be associated to the people not to the software.
3) Freedom is not an absolute concept. Freedom should be allowed, not imposed.
4) 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 suite LibreOffice.

FREE SOFTWARE:

1) Software is an important part of people's lives.
2) Software freedom translates to social freedom.
3) Freedom is a value that is more important than any economical advantage.
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.