Topic 1

What is open source software?

Open source software is software with source code that anyone can inspect, modify, and enhance.

"Source code" is the statements written in computer programming languages such as C,C++, Python, Java etc. It's the source code which decides how 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.

What's the difference between open source software and other types of software?

"proprietary" or "closed source" software are the software's where the source code is accessible to only the person, team, or organization who created it—and maintains exclusive control over it—can modify.

Only the original authors of proprietary software can legally copy, inspect, and alter that software. And in order to use proprietary software, computer users must agree (usually by signing a license displayed the first time they run this software) that they will not do anything with the software that the software's authors have not expressly permitted. Microsoft Office ,Adobe Photoshop, Coral Draw are examples of proprietary software.

Open source software is different. Its authors make its source code available to others who would like to view that code, copy it, learn from it, alter it, or share it. LibreOffice and Ubuntu are examples of open source software.

Topic 2

Free and open-source software (FOSS) is software that can be classified as both free software and open-source software. That is, anyone is freely licensed to use, copy, study, and change the software in any way, and the source code is openly shared so that people are encouraged to voluntarily improve the design of the software. This is in contrast to proprietary software, where the software is under restrictive copyright licensing and the source code is usually hidden from the users.

FOSS benefits over proprietary software

Personal control, customizability and freedom

Users of FOSS benefit from the Four Essential Freedoms to make unrestricted use to study, copy, modify, and redistribute such software with or without modification. If they would like to change the functionality of software they can bring about changes to the code and, if they wish, distribute such modified versions of the software even push or request such changes to be made via updates to the original software.

Privacy and security

Manufacturers of proprietary software are sometimes pressured to building in backdoors undesired features into their software. Instead of having to trust software vendors, users of FOSS can inspect and verify the source code themselves and can put trust on a community of volunteers and users. As proprietary code is typically hidden from public view, only the

vendors themselves and hackers may be aware of any vulnerabilities in them while FOSS involves as many people as possible for exposing bugs quickly.

Low costs or no costs

FOSS is often free of charge although donations are often encouraged. This also allows users to better test and compare software.

Quality, collaboration and efficiency

FOSS allows for better collaboration among various parties and individuals with the goal of developing the most efficient software for its users or use-cases while proprietary software is typically meant to generate profits. Furthermore, in many cases more organizations and individuals contribute to such projects than to proprietary software. It has been shown that technical superiority is typically the primary reason why companies choose open source software.

Drawbacks compared to proprietary software

Security and user-support

More the people who can see and test a set of code, the more likely any flaws will be caught and fixed quickly. However, this does not guarantee a high level of participation. Having a grouping of full-time professionals behind a commercial product can in some cases be superior to FOSS.

Furthermore, publicized source code might make it easier for hackers to find vulnerabilities in it and write exploits.

Software incompatibility and System requirements

Sometimes, FOSS is not compatible with proprietary hardware or specific software. This is often due to manufacturers obstructing FOSS such as by not disclosing the interfaces or other specifications needed for members of the FOSS movement to write drivers for their hardware.

Bugs and missing features

While FOSS can be superior to proprietary equivalents in terms of software features and stability, in many cases FOSS has more unfixed bugs and missing features when compared to similar commercial software. This varies per case and usually depends on the level of interest and participation in a FOSS project.

Less guarantees of development

There is often less certainty in FOSS projects gaining the required resources / participation for continued development than commercial software backed by companies.

Missing applications

As the FOSS operating system distributions of Linux has a lower market share of end users there are also fewer applications available.

Topic 3

LibreOffice is a free and open-source office suite, a project of The Document Foundation. It was developed by OpenOffice.org in 2010. The LibreOffice suite comprises programs for

word processing, the creation and editing of spreadsheets, slideshows, diagrams and drawings, working with databases, and composing mathematical formulae. It is available in 115 languages.

LibreOffice uses the international ISO/IEC standard OpenDocument file format (ODF) as its native format to save documents for all of its applications. LibreOffice also supports the file formats of most other major office suites, including Microsoft Office, through a variety of import/export filters.

LibreOffice is available for a variety of computing platforms, including Microsoft Windows, macOS, and Linux (including a LibreOffice Viewer for Android), as well as in the form of an online office suite LibreOffice Online. It is the default office suite of most popular Linux distributions.

Component		Notes
	Writer	A word processor with similar functionality and file support to Microsoft Word or WordPerfect. It has extensive WYSIWYG word processing capabilities, but can also be used as a basic text editor.
	Calc	A spreadsheet program, similar to Microsoft Excel or Lotus 1-2-3. It has a number of unique features, including a system which automatically defines series of graphs, based on information available to the user.
	Impress	A presentation program resembling Microsoft PowerPoint. Presentations can be exported as SWF files, allowing them to be viewed on any computer with Adobe Flash Player installed.
	Draw	A vector graphics editor and diagramming tool similar to Microsoft Visio and comparable in features to early versions of CorelDRAW. It provides connectors between shapes, which are available in a range of line styles and facilitate building drawings such as flowcharts. It also includes features similar to desktop publishing software such as Scribus and Microsoft Publisher. It is also able to act as a PDF-file editor.
	Math	An application designed for creating and editing mathematical formulae. The application uses a variant of XML for creating formulas, as defined in the OpenDocument specification. These formulas can be incorporated into other documents in the LibreOffice suite, such as those created by Writer or Calc, by embedding the formulas into the document.
	Base	A database management program, similar to Microsoft Access. LibreOffice Base allows for the creation and management of databases as well as the preparation of forms and reports that provide end users easy access to data.

MS-office and its Components

Microsoft Office is a powerful suite of applications that can assist you in many projects and business applications. You can write letter, maintain records , prepare presentations etc. with the help of tools available in MS-Office. It is a complete package that can do all the work at the office with the multi-user and the multitasking facility.

MS Office was first introduced by Bill Gates on August 1, 1988, the first version of Office contained Microsoft Word, Microsoft Excel, and Microsoft PowerPoint. Over the years, Office applications have grown substantially and many features have been added such as spell checker, OLE data integration and Visual Basic for Applications scripting language etc.

for PCs running the Windows and mac OS operating systems. Office Online, is a version of the software that runs within a web browser, while Microsoft also maintains Office apps for Android and iOS.

Since Office 2013, Microsoft has promoted Office 365 as the primary means of obtaining Microsoft Office: it allows use of the software and other services on a subscription business model, and users receive free feature updates to the software for the lifetime of the subscription, including new features and cloud computing integration that are not necessarily included in the "on-premises" releases of Office sold under conventional license terms. In 2017, revenue from Office 365 overtook conventional license sales.

The current on-premises, desktop version of Office is Office 2019, released on September 24, 2018.

The Components of MS Office are as follow :

Microsoft Word

It is word processing software that enables us to create, edit, print and save documents. It controls the style of text, fonts and size of characters in it. We can also set header margin, header and footer and line spacing with the inbuilt facilities in it,\. The meaning of the words and theirs spellings can also be checked by the spelling and grammar checks. Also, the facility of thesaurus helps to find the synonyms and their meanings. Different types of graphical images can be inserted and drawn using various tools. Thus it is complete word processing software in itself.

Microsoft Excel

It is a spreadsheet program that lets you manipulate the data present in required format according to the needs of the user. It also has built in functions for performing statistical, mathematical, financial and trigonometric calculations. The property of inserting bar graphs and images add to its properties. The formatting facilities help to format the data in the worksheets. It also prints the documents in the same order.

Microsoft Power point

A presentation program which helps to create and display on screen slideshow presentation with graphical effects for business. A number of charts, graphical images which can be added to the presentation. Use of design, animation and transition effects make the slideshow attractive and more understandable for the user.

Microsoft Access

A database handling program that lets users to store and organise information n a set of tables. User can perform calculations and manipulations on the data by using various in command given in the SQL structured query language. User can also create forms and reports in a specific format.

MS- Picture Manager

It is an image editing software. It has many basic features related to the image editing such as : crop, colour and contrast adjustment, rotation, resize and compression etc.

MS-Publisher

It is a desktop publishing program, which you can use to create newsletter, business cards, flyers and other publications with text and graphics.

Microsoft OneNote

It is a program for free-form information gathering and multi-user collaboration. It gathers users' notes, drawings, screen clippings and audio commentaries. Notes can be shared with other OneNote users over the Internet or a network.

Features of MS-Office

Quick access tool bar – The quick access toolbar is a small and moveable toolbar at the top of the document window. It usually contains buttons to save, undo, redo and print. This toolbar can also be customized to include or remove other commands.

Ribbon – The Ribbon is a type of toolbar found in versions of Microsoft Office 2007 onwards. It contains graphic buttons for commands and similar commands are shown in groups for easy access.

Clipboard – The clipboard acts as a type of storage area when a piece of text is temporarily removed and stored for later use within the same session. Using the Cut or Copy commands will place the text in the clipboard. Click on "Clipboard" under the Edit menu to view any text that may be temporarily stored in it.

Templates: MS-Office provides various inbuilt template files , by using which user can create new files quickly and very easily.

Save – MS office allow document/spreadsheet/presentation etc. to save for future references. It allows users to save the files in various formats.

Password protection : For providing the security to the files . MS office has provided a pass word protection feature. This option allow a user to provide password to the document/spreadsheet/presentation etc. so that only authorised users can access them.

Alignment – The alignment options dictate whether the left and right edges of the text in a document adhere to the right side, left, center or justified. Alignment can be set from the formatting toolbar at the top of the window or under by choosing "Paragraph" under the Format menu.

Format and Design– The Format and design menus goes one step further than the Edit menu. Users can make stylistic changes by changing the look of the text , paragraphs, images and more.

Print – The print command first opens a window where users can specify parameters of the paper, printer and ink they wish to print with and it provides a preview of what the physical print will look like. Control or Command plus P, or clicking on "Print" in the File menu or standard toolbar lets users access the print window.