**SOFTWARE BASICS\_PLAN**

Definition of software. Categories of software. Types of software.

Definition of copyright and licence agreement. Type of software licences.

Definition of software piracy. Types of software piracy. Dangers of software piracy. Preventive measures against using pirated software.

1.1 The term **software** was once used for all non-hardware components of a computer. Using today’s terminology, however, the documents and photos you create are usually referred to as data files rather than as software. Software determines the tasks a digital device can help you accomplish. The instructions that tell a computer how to carry out a task are referred to as a computer program. These programs form the software that prepares a computer to do a specific task, such as document production, virus protection, file management, or Web browsing.

1.2 The two main categories are **system software** and **application software**.

1.3

* Operating systems are classified as system software. Device drivers, utilities, and programming languages are also system software. Application software categories include music, graphics, mapping, finance, and entertainment.
* Application software is designed to help people accomplish real-world tasks, whereas system software is designed for computer-centric tasks.
* Programming Languages and Development Tools: These software types enable developers to create, debug, and maintain other software applications. Examples include programming languages like Python, Java, C++, and development environments such as Visual Studio, Eclipse, and Xcode.
* Utility Software: These are tools designed to perform specific tasks or optimize system performance. Examples include antivirus software, file compression tools, disk cleanup utilities, and backup software.
* **Location-based software** is able to access your current location and use it to show you the closest shops, restaurants, ATMs, and theaters
* **Vertical market software** is designed to automate specialized tasks in a specific market or business. Examples include hospital patient management and billing software. Today, almost every business has access to some type of specialized vertical market software designed to automate, streamline, or computerize key business activities.
* **Horizontal market software** is generic software that just about any kind of business can use. For example, many small businesses use QuickBooks to keep track of income and expenses, pay bills, and track inventory. Payroll software and project management software are examples of horizontal market software.
* **Word processing packages**, such as Microsoft Word or iWork Pages give you the ability to create, spell-check, edit, and format a document on the screen before you commit it to paper
* **Spreadsheet software** provides tools to create electronic spreadsheets. It is similar to a smart piece of paper that automatically adds up columns of numbers written on it. You can make other calculations, too, based on simple equations that you create or more complex, built-in formulas. It also includes special data-handling features that allow you to sort data, search for data that meets specific criteria, and print reports. Because it is so easy to experiment with different numbers, spreadsheet software is particularly useful for **what-if analysis**.
* **Database software** helps you enter, find, organize, update, and report information stored in a database. Database software stores data as a series of records, which are composed of fields that hold data. A **record** holds data for a single entity – a person, place, thing, or event. A **field** holds one item of data relevant to a record. Many databases contain hundreds or thousands of records. If you want to find a particular record or a group of records, scrolling through every record would take a very long time. Instead, you can enter a **query** that describes the information you want to find. Queries can take several forms

2.1 A **copyright** is a form of legal protection that grants the author of an original work an exclusive right to copy, distribute, sell, and modify that work. In addition to copyright protection, computer software is often protected by the terms of a software license. A **software license**, or license agreement, is a legal contract that defines the ways in which you may use a computer program.

2.2

* **Public domain software** is not protected by copyright because the copyright has expired, or the author has placed the program in the public domain, making it available without restriction. Public domain software may be freely copied, distributed, and even resold.
* **Proprietary software** has restrictions on its use that are delineated by copyright, patents, or license agreements. Based on licensing rights, proprietary software is distributed as commercial software, demoware, shareware, freeware, and open source software.
* **Commercial software** is usually sold in retail stores or at Web sites. Although you buy this software, you actually purchase only the right to use it under the terms of the software license. Some commercial software is free.
* **Demoware** is distributed for free and often comes preinstalled on new computers, but it is limited in some way until you pay for it.
* **Shareware** is copyrighted software marketed under a try-before-you-buy policy. To use it beyond the trial period, you are supposed to pay a registration fee. Unlike feature- or time-limited demoware, shareware is supposed to be fully- functioning software.
* **Open source software** makes uncompiled program instructions – the source code – available to programmers who want to modify and improve the software. Open source software may be sold or distributed free of charge in compiled form, but it must, in every case, also include the source code. Linux is an example of open source software.
* **Freeware** is copyrighted software that is available for free. It is fully functional and requires no payment for its use. A freeware license permits you to use the software, copy it, and give it away, but does not permit you to alter it or sell it. Many utility programs, most device drivers, and some games are available as freeware.

3.1 Software Piracy is the **illegal** approach of copying, **distributing**, modifying, selling, or using the software which is legally **protected**. So in a simple term, we can say Software piracy is the act of **stealing** legal software in an illegal way. This software piracy refers to the **unauthorized** copy and use of legal software.

3.2

* Softlifting

It is the most common type of software piracy. In this piracy, the legal **owner** of the software is one, but the users are multiple. For instance, someone **purchases** the **genuine** software, and others will illegally use that software by downloading the software to their computer.

For example, many times we **borrow** the software from our colleague and install a copy of that on our computer just to save the money which rises to softlifting one type of software piracy.

* Hard-disk Loading

It is the most common type of software piracy which mainly happens in PC resell shops. The shop owner buys a legal copy of the software and **reproduces** its copies in **multiple** computers by installing it. Most of the time customers/PC users are not aware of these things and get the pirated version of the software in the original price or less than the original price. It is one type of Commercial software piracy.

* Counterfeiting

In counterfeiting the duplicates are created of genuine/legal software programs with the appearance of **authenticity**. Then this duplicate software is sold out at less price.

* Client-Server overuse

In client-server overuse, more copies of the software are installed than it has licensed for. Mainly it has seen in local business sectors when they work under a local area and install the software in all the computers for use by a number of employees which is an unauthorized practice.

* Online Piracy

In online piracy, the illegal software is **acquired** from online auction sites and blogs which is mainly achieved through the P2P (Peer to Peer) file-sharing system. As it is acquired **by means of** the Internet, often it is called Internet Piracy.

3.3

* Loss of Developer Revenue: Software piracy deprives developers and software companies of their rightful revenue. This loss of income can impact their ability to invest in research and development, improve existing software, and create new products. Ultimately, it can stifle innovation and hinder the growth of the software industry.
* Compromised Software: Pirated software often comes from untrusted sources and may be modified or tampered with. There's a significant risk of malware, viruses, and other security threats being bundled with pirated software. These malicious elements can compromise the security of your computer or network, leading to data breaches, identity theft, or financial loss.
* Lack of Support and Updates: Legitimate software comes with customer support and access to software updates, patches, and security fixes. When using pirated software, you miss out on these essential benefits. Without regular updates, your software may be vulnerable to security vulnerabilities, bugs, and compatibility issues.
* Ethical Considerations: Software piracy goes against ethical principles. It devalues the hard work of developers and content creators who invest time, effort, and resources in creating software. Supporting piracy undermines the concept of intellectual property rights and fair compensation for creators, which can have broader societal implications.
* Unreliable and Incomplete Software: Pirated software often lacks the full functionality or features of the genuine version. It may have disabled or limited capabilities, reducing its usefulness. Additionally, pirated software may lack documentation, tutorials, or user manuals, making it challenging to learn and utilize effectively.

3.4

* Educate and Raise Awareness: Promote awareness about the risks and consequences of software piracy among individuals, organizations, and communities. Educate them about the importance of intellectual property rights and the benefits of using legal software.
* Purchase Software from Authorized Sources: Always purchase software from authorized vendors, official websites, or trusted retailers. Ensure that you receive a valid license key or activation code along with the software. Legitimate software often comes with warranties, customer support, and access to updates and security patches.
* Verify Software Authenticity: Be cautious when acquiring software from unofficial sources or peer-to-peer sharing networks. Verify the authenticity of the software by checking the official website, verifying the digital signatures, or using verification tools provided by the software vendor.
* Use Open Source Software: Consider using open source software, which is freely available and often has permissive licenses. Open source software encourages collaboration, transparency, and legal sharing, reducing the need for piracy.