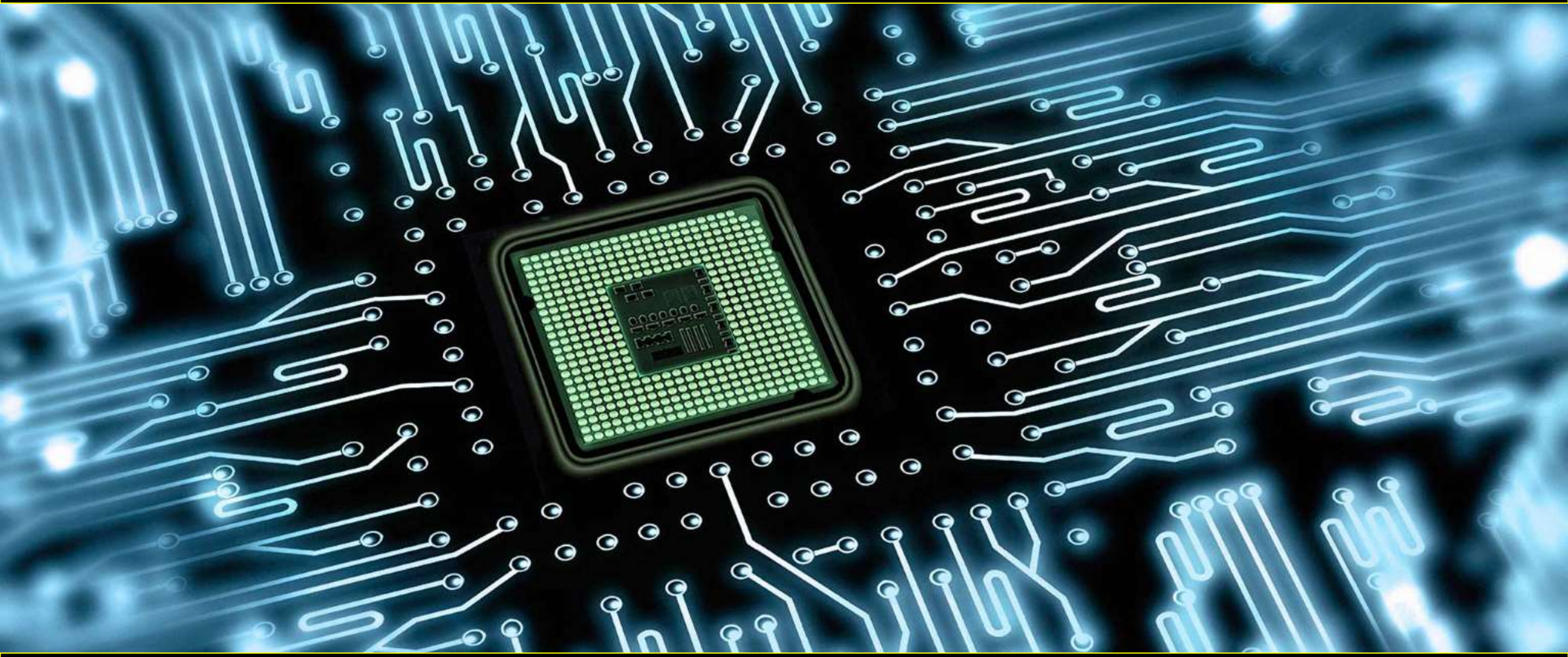
MODULE 3: SOFTWARE BASICS




Lesson 1: Operating System

DEFINITION

- An **operating** system is the most **important software** that runs on a computer
- It manages the computer's **memory** and **processes**, as well as all of its **software** and **hardware**.
- It also allows you to **communicate** with the computer without knowing how to speak the computer's language.

THE OPERATING SYSTEM'S JOB

- Your computer's **operating system (OS)** manages all of the **software** and **hardware** on the computer.
- Most of the time, there are several different computer programs running at the same time, and they all need to access your **computer's central processing unit (CPU)**, **memory**, and **storage**.

THE OPERATING SYSTEM'S JOB

- The operating system coordinates all of this to make sure each program gets what it needs.

TYPES OF OPERATING SYSTEMS

- Operating systems usually come **pre-loaded** on any computer you buy. Most people use the operating system that comes with their computer, but it's possible to upgrade or even change operating systems
- The three most common operating systems for personal computers are **Microsoft Windows**, **macOS**, and **Linux**.

TYPES OF OPERATING SYSTEMS

- Modern operating systems use a **graphical user interface**, or **GUI** (pronounced **gooey**).
- A GUI lets you use your mouse to click **icons**, **buttons**, and **menus**, and everything is clearly displayed on the screen using a combination of **graphics** and **text**.

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TYPES OF OPERATING SYSTEMS

- Each operating system's GUI has a different look and feel, so if you switch to a different operating system it may seem unfamiliar at first
- Modern operating systems are designed to be **easy to use**, and most of the basic principles are the same.

MICROSOFT WINDOWS

- Microsoft created the **Windows** operating system in the **mid-1980s**.
- There have been many different versions of Windows, but the most recent ones are:
  - **Windows 10 (2015)**
  - **Windows 8 (2012)**
  - **Windows 7** (2009)
  - **Windows Vista** (2007)

MICROSOFT WINDOWS

- Windows comes **pre-loaded** on most new PCs, which helps to make it the **most popular operating system** in the world.

macOS

- macOS (previously called OS X) is a line of operating systems created by Apple.
- It comes preloaded on all Macintosh computers, or Macs. Some of the specific versions include:
  - **Mojave (2018)**
  - **High Sierra (2017)**
  - **Sierra (2016)**.

macOS

- According to StatCounter Global Stats, macOS users account for less than **10%** of global operating systems—much lower than the percentage of Windows users **(more than 80%)**.
- One reason for this is that Apple computers tend to be more expensive
- However, many people do prefer the look and feel of macOS over Windows

LINUX

- **Linux** (pronounced **LINN-ux**) is a family of **open-source** operating systems, which means they can be modified and distributed by anyone around the world.
- This is different from **proprietary software** like Windows, which can only be modified by the company that owns it
- The advantages of Linux are that it is **free**, and there are many different **distributions**—or versions—you can choose from.

LINUX

- According to StatCounter Global Stats, Linux users account for less than **2%** of global operating systems.
- However, most **servers** run Linux because it's relatively easy to customize

OPERATING SYSTEMS FOR MOBILE DEVICES

- The operating systems we've been talking about so far were designed to run on **desktop** and **laptop** computers.
- **Mobile devices** such as **phones**, **tablet computers**, and **MP3 players** are different from desktop and laptop computers, so they run operating systems that are designed specifically for mobile devices

OPERATING SYSTEMS FOR MOBILE DEVICES

- Examples of mobile operating systems include **Apple iOS** and **Google Android**.
- Operating systems for mobile devices generally aren't as fully featured as those made for desktop and laptop computers, and they aren't able to run all of the same software
- However, you can still do a lot of things with them, like watch movies, browse the Web, manage your calendar, and play games

END