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Day 1: Computer Components

On Day 1, I focused on learning about the essential components of a computer and how they work together. The main parts I researched include the motherboard, CPU, RAM, and storage devices such as HDDs and SSDs. Understanding the role of each component is key to building or upgrading a computer.

The motherboard is the central hub that connects all other components. It determines what kind of processor (CPU), memory (RAM), and storage (HDD/SSD) you can use. Choosing a compatible motherboard is crucial for system performance and future upgrades.



The CPU or Central Processing Unit acts as the brain of the computer. It processes instructions and performs calculations. I learned that the CPU must be compatible with the motherboard's socket type and chipset.



RAM provides temporary data storage for active processes. It helps the computer run multiple applications smoothly. The amount and type of RAM must match what the motherboard supports.



Lastly, I compared HDDs and SSDs. HDDs are traditional storage devices with moving parts, while SSDs are faster and more reliable, using flash memory.



In conclusion, each component plays an important role, and compatibility between them is essential for a functional and efficient computer system.

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Day 2: Peripheral Devices

On Day 2, my focus was on peripheral devices. These are external components that connect to a computer to expand its functionality. The main devices I explored were monitors, keyboards, mice, and printers. I aimed to understand both how to install them and how they are used.

A monitor is the primary output device that displays information visually. I learned about different types of monitors, including LED and LCD, and how to connect them via HDMI or VGA cables. Adjusting display settings is also essential for proper performance.



Keyboards and mice are input devices that allow the user to interact with the computer. Keyboards are used for typing commands and data, while mice help navigate the graphical interface. I learned how to connect both wired and wireless versions and install drivers when needed.



Printers are output devices used to produce physical copies of digital documents. I studied how to install a printer using USB or Wi-Fi, install the correct driver, and set it as the default printer.



Understanding these devices is crucial for everyday computer use. Proper installation and usage ensure they work efficiently, making the overall computer experience smoother and more productive.

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Day 3: Computer Assembly

On the third day of our computer hardware course, we focused on assembling a computer. The session began with watching PC build videos, which were both educational and fascinating. These videos clearly demonstrated the step-by-step process of assembling a computer, starting from installing the CPU onto the motherboard, adding RAM, and attaching the cooling system, to connecting the power supply and placing all components inside the case.

Watching professionals handle delicate parts with care and precision helped us understand the importance of being gentle and organized.

After watching, we moved on to simulation. Using a virtual PC building tool, we were able to practice what we had seen without the risk of damaging real components. The simulation allowed us to repeat the process multiple times, making us more confident. It also helped us understand how all the parts connect and function together to build a working computer.

This hands-on learning approach, combining video tutorials and simulation, made the process easier to follow and more engaging. By the end of the day, we felt more prepared to build an actual PC. It was a valuable experience that taught us not just how to assemble a computer, but also how to be precise, careful, and methodical.

**How to
Build
a PC**



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Day 4: Hardware Maintenance

Maintaining computer hardware is crucial for ensuring its longevity and optimal performance. On Day 4, the focus falls on three essential aspects of hardware care: cleaning, applying thermal paste, and practicing safe handling.

Regular cleaning of computer components, especially inside the case, prevents dust buildup, which can block airflow and cause overheating. Using compressed air to clean fans, heatsinks, and power supplies is a simple yet effective method. It not only keeps the components cool but also reduces noise and extends their lifespan.

Thermal paste plays a critical role in heat transfer between the CPU and its cooler. Over time, this paste can dry out, leading to increased temperatures. Reapplying thermal paste every couple of years ensures efficient heat dissipation. The process involves removing the old paste carefully with isopropyl alcohol and applying a small, even amount of new paste before reattaching the cooler.

Finally, safe handling practices are vital when working with hardware. This includes grounding oneself to avoid static discharge, handling components by their edges, and keeping liquids away from electronic parts. By following these precautions, one avoids damaging sensitive parts and ensures personal safety.

In conclusion, good hardware maintenance—cleaning, using thermal paste properly, and safe handling—keeps systems running smoothly and helps prevent costly repairs or replacements.



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Day 5: BIOS/UEFI Settings

Understanding BIOS/UEFI settings is essential for managing how a computer starts and operates at a basic level. On Day 5, the focus is on learning about the startup sequence, boot device selection, and core system settings using virtual BIOS tools.

BIOS (Basic Input/Output System) and its modern replacement, UEFI (Unified Extensible Firmware Interface), control the early stages of a computer's startup process. One of the most important features is the startup sequence, which determines the order in which the system looks for bootable devices. Users can adjust this sequence to prioritize a USB drive, for example, when installing a new operating system.

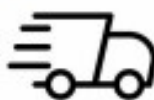
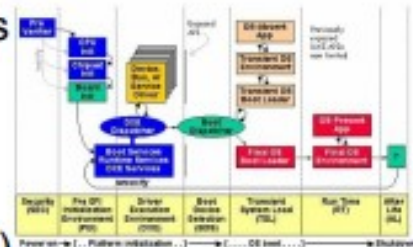
Another key feature is selecting the boot device. This allows users to boot from different drives or devices, such as an SSD, HDD, DVD, or USB stick. This is especially useful for troubleshooting or recovery purposes.

BIOS/UEFI also includes basic system settings such as time, date, fan speeds, and enabling/disabling integrated components. These settings ensure the system runs efficiently and according to user preferences.

Learning through virtual BIOS tools offers a safe and interactive way to explore these configurations without risk.

Overall, mastering BIOS/UEFI is a vital skill for anyone interested in computer maintenance or system building.

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Day 6: Network Basics

In today's digital world, understanding networking fundamentals is essential. At the core of computer networking are concepts like LAN, WAN, IP addresses, routers, and switches. A Local Area Network (LAN) connects devices within a small geographic area, like a home, office, or school. It allows computers and devices to share resources such as printers, files, or internet connections efficiently.



Local Area Network

On the other hand, a Wide Area Network (WAN) spans much larger distances. The internet itself is the best example of a WAN, linking millions of LANs and devices globally.



Every device connected to a network has an IP address, a unique identifier that allows communication between systems. IP addresses are like digital home addresses, directing data to the right destination.

A router is a device that connects different networks together, such as your home LAN to the internet. It routes data between the local network and external networks. Meanwhile, a switch operates within a LAN, directing data only to the device it is intended for, improving the efficiency and security of communication.



By understanding these components, we gain insight into how data flows across networks, keeping our digital world connected and functioning.

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Day 7: Wi-Fi Setup and Configuration

Setting up a Wi-Fi network properly is essential for ensuring strong connectivity and network security. The process begins with accessing the modem/router settings through a web browser, usually by entering the device's IP address (like 192.168.0.1). From this interface, users can configure various options such as wireless frequency bands, security protocols, and device management.



One of the first steps is changing the SSID (Service Set Identifier), which is the name of your Wi-Fi network. Using a unique SSID helps distinguish your network from others nearby, especially in crowded areas like apartment buildings.

Passwords are a critical part of Wi-Fi security. It's important to use a strong WPA2 or WPA3 password to prevent unauthorized access. A weak password could lead to slow internet, data theft, or even unauthorized access to your devices.

Another key configuration is IP allocation. Most routers use DHCP (Dynamic Host Configuration Protocol) to automatically assign IP addresses to devices on the network. However, advanced users may set static IPs for specific devices to ensure stable connections and easier port forwarding.



Proper Wi-Fi setup not only improves performance but also keeps your home network safe and efficient.

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Day 8: Operating Systems

Windows and Linux are two of the most popular operating systems used today, each offering unique features and advantages. Windows, developed by Microsoft, is known for its user-friendly interface, widespread software compatibility, and strong support for gaming and business applications. It is commonly used in homes, offices, and schools due to its ease of use and extensive support network.



Linux, on the other hand, is an open-source operating system favored by developers, IT professionals, and those who value customization and security. There are various distributions of Linux, such as Ubuntu and Fedora, each tailored to different needs. Unlike Windows, Linux allows users to modify and optimize the system according to their requirements.



Linux

Basic tasks such as file management, internet browsing, and software installation can be performed on both systems, though the methods differ. For example, installing software on Windows often involves downloading an executable file, while Linux typically uses command-line tools or package managers.



In conclusion, Windows is ideal for users seeking simplicity and compatibility, while Linux is preferred by those who desire control and flexibility. Understanding both systems provides a broader perspective and valuable skills in today's tech-driven world.

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Day 9: Installing OS

Installing an operating system (OS) such as Windows or Linux is a fundamental skill for anyone interested in computing. Today, users can install these systems either on real hardware or in virtual machines (VMs) using software like VirtualBox or VMware. VMs are especially useful for practicing installations without affecting the host system.



When installing Windows, the process is guided and user-friendly. Typically, users boot from a USB or ISO file and follow an on-screen setup wizard. Key steps include choosing the language, selecting a partition, and entering a license key. Most hardware drivers are installed automatically, making it ideal for beginners.

**Install
This**



**From
This**



Linux installation varies slightly depending on the distribution, but it often includes steps like selecting a timezone, creating a user account, and choosing a file system. Linux installers also offer the ability to dual-boot with Windows, which is useful for users transitioning between systems.

Video tutorials are excellent resources during OS installation. They provide visual guidance, explain potential issues, and help users feel more confident throughout the process. Whether installing Windows or Linux on a VM or a real machine, these tutorials make learning interactive and accessible.

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Day 10: File Systems and Utilities

File systems are essential for organizing and managing data on storage devices. Among the most commonly used file systems are NTFS, FAT32, and EXT4. Each of these has unique characteristics and is suited for different operating systems and purposes.



NTFS (New Technology File System) is widely used in Windows systems. It supports large file sizes, file permissions, encryption, and journaling, making it a robust choice for modern computing needs. FAT32 (File Allocation Table 32) is an older file system that offers broad compatibility across various platforms, including Windows, macOS, and Linux. However, it has limitations, such as a maximum file size of 4GB and lack of modern features like journaling.



EXT4 (Fourth Extended File System) is the default file system for many Linux distributions. It provides excellent performance, supports large volumes and files, and includes journaling for improved data integrity. When managing disks, utilities such as Disk Management in Windows or GParted in Linux allow users to format partitions, change file systems, and manage storage effectively.



System tools also play a crucial role in maintaining file systems and ensuring optimal performance. Tools like CHKDSK, fsck, and defragmenters help detect and fix errors, improve speed, and extend the life of storage devices.



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Day 11: Introduction to Software Types

Software is a fundamental part of any computer system and is generally classified into three main types: system software, application software, and utility software.

SOFTWARE

System software includes programs that manage the hardware and create the environment for other software to run. Examples include operating systems like Windows, macOS, and Linux, which control the computer's basic functions. Device drivers and firmware are also part of system software, enabling hardware components to communicate with the system effectively.

Application software refers to programs designed for end users to perform specific tasks. These include word processors like Microsoft Word, web browsers like Google Chrome, and media players like VLC. This type of software allows users to be productive, creative, and entertained depending on the application.



Utility software is designed to help maintain, analyze, and optimize a computer. These tools support system software and hardware by performing tasks such as virus scanning, disk cleanup, and file management. Examples include antivirus programs like Avast, file compression tools like WinRAR, and system cleaners like CCleaner.

Understanding the different types of software helps users select the right tools for their needs and ensures that systems run efficiently and securely.



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Day 12: Installing & Configuring Software

On Day 12 of our training, we focused on installing and configuring essential software. This includes office suites, antivirus programs, browsers, and multimedia tools. Each of these software types plays a vital role in enhancing productivity, protecting the system, and providing a better user experience.

Office suites such as Microsoft Office or LibreOffice are fundamental for creating documents, spreadsheets, and presentations. Learning how to properly install and activate them ensures that users can work efficiently and securely.

Antivirus software is crucial for system protection. During the training, we learned how to install, configure, and update antivirus programs to keep the system safe from malware and cyber threats.

Browsers like Google Chrome, Mozilla Firefox, or Microsoft Edge are gateways to the internet. We explored how to install them and adjust settings for performance and security.

Multimedia tools, including audio and video players, are essential for both work and entertainment. Installing codecs and configuring settings ensures smooth playback and functionality.

Overall, mastering the installation and configuration of these tools is key to maintaining an efficient and secure computer system.



Multimedia Software Tools



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Day 13: Basic Troubleshooting

On Day 13, our focus was on basic troubleshooting techniques, which are essential for resolving common computer issues. We dealt with problems like software not starting, driver issues, and slow performance.

When software doesn't start, the first steps involve checking for error messages, ensuring the application is properly installed, and verifying system compatibility. Reinstalling or updating the software often resolves the issue.

Driver issues are another common problem, especially with hardware components like printers or graphic cards. We learned to identify outdated or missing drivers using Device Manager and how to update them from official sources to ensure proper hardware functionality.

Slow performance can be caused by many factors, such as too many background applications, insufficient RAM, or malware. During the session, we practiced using Task Manager to monitor system performance and learned how to clean up unnecessary programs and perform disk cleanup.

These basic troubleshooting steps are essential for maintaining a smooth and responsive computer experience. Being able to quickly identify and fix issues saves time and reduces the need for professional support.

BASIC

TROUBLESHOOTING
TECHNIQUES



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Day 14: Mini IT Project Design

On Day 14, we engaged in a mini IT project focused on designing a scenario for setting up a new office computer and network system. This task required planning, selecting appropriate hardware and software, and ensuring a secure and efficient network environment.



The first step was identifying the office needs—such as the number of employees, the type of work performed, and specific software requirements. Based on this, we chose suitable desktops with enough processing power and memory to handle everyday tasks like document editing, emailing, and web browsing.

Next, we planned the network infrastructure. This included selecting a reliable router, setting up wired and wireless connections, and configuring a secure Wi-Fi network. We also discussed the importance of network security, such as using strong passwords and enabling firewalls.



Software installation was another important aspect. We installed operating systems, office suites, antivirus software, and any specialized tools required by the business.



Finally, we tested the entire system to ensure functionality and connectivity. This project helped us understand the real-world process of setting up an IT environment from scratch.

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Day 15: Presentation & Reflection

During the past 15 days of my internship, I have gained valuable insights and practical experience that have greatly contributed to my personal and professional growth. This opportunity allowed me to apply theoretical knowledge in real-world situations, improve my technical and communication skills, and better understand the work environment.

One of the most significant aspects of my internship was working on a project that challenged my creativity, problem-solving abilities, and time management. I had the chance to contribute meaningfully by researching, planning, and implementing tasks that aligned with the goals of the organization. This experience taught me the importance of teamwork, adaptability, and continuous learning.

Presenting my work on the final day provided a moment of reflection. It helped me realize how much I had accomplished in a short time and highlighted the progress I made both as an individual and as a team member. Sharing my results and receiving feedback was a rewarding experience that boosted my confidence.

Overall, this internship has been a stepping stone towards my future career. It gave me a clearer vision of what I want to pursue and the areas where I need to improve.



Thank You

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