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IOT (INTERNET OF THINGS)

**ASSIGMENT-1**

Step 1: Power-On Self-Test (POST)

The computer's BIOS (Basic Input/Output System) or UEFI (Unified Extensible Firmware Interface) firmware initializes the hardware components, including the CPU, memory, and storage devices. The POST checks for any hardware issues or configuration problems.

Step 2: Bootloader Loading

The BIOS or UEFI firmware loads the bootloader, which is usually stored in the Master Boot Record (MBR) or the GUID Partition Table (GPT). The bootloader is responsible for loading the operating system.

Step 3: Bootloader Execution

The bootloader executes and displays a boot menu, allowing the user to select the operating system to boot. If only one operating system is installed, the bootloader will automatically select it.

Step 4: Operating System Loading

The bootloader loads the selected operating system into memory. This involves reading the operating system files from the storage device and loading them into RAM.

Step 5: Kernel Initialization

The operating system kernel initializes, which involves setting up the system's memory management, process scheduling, and device drivers.

Step 6: Device Driver Initialization

The kernel initializes the device drivers, which are responsible for managing the computer's hardware components, such as the keyboard, mouse, and display.

Step 7: System Services Initialization

The kernel initializes the system services, which provide various functions, such as process management, networking, and file systems.

Step 8: User Space Initialization

The kernel initializes the user space, which involves setting up the user's environment, including the shell, desktop environment, and applications.

Step 9: Login Prompt

The operating system displays a login prompt, allowing the user to enter their username and password.

Step 10: Desktop Environment Loading

After the user logs in, the desktop environment loads, which includes the desktop background, icons, and applications.

The entire process, from pressing the start button to the desktop environment loading, typically takes around 1-2 minutes, depending on the computer's hardware and operating system.