Module 6 Glossary New terms and their definitions: Course 1 Week 6 **404 Not Found:** An error message you might see on websites that have been moved or deleted Discussion Prompt: Your Learning Journey 10 min Error message: Helpful indicators that can point you in the right direction Permission denied: An error message you might find when accessing a protected file Root cause: The main factor that's causing a range of issues Video: Sabrina: Technology can open doors Troubleshooting: The ability to diagnose and resolve a problem Terms and their definitions from previous modules Abstraction: To take a relatively complex system and simplify it for our use Address bus: Connects the CPU to the MCC and sends over the location of the data, but not the data itself Algorithm: A series of steps that solves specific problems Android: A mobile operating system based on Linux Application: A computer program designed for a specific use Application software: Any software created to fulfill a specific need, like a text editor, web browser, or graphics editor $\textbf{ARPANET:} \ \text{The earliest version of the Internet that we see today, created by the US government project DARPA in the account of the US government project DARPA in the pro$ **ASCII:** The oldest character encoding standard used is ASCII. It represents the English alphabet, digits, and punctuation Assembly language: A language that allowed computer scientists to use human readable instructions, assembled into ATA: The most common interface that hard drives use to connect to our system ATX (Advanced Technology eXtended): The most common form factor for motherboards Automation: It makes processes work automatically Backward compatible: It means older hardware works with newer hardware Binary system: The communication that a computer uses is referred to as binary system, also known as base-2 BIOS (Basic Input Output Services): The BIOS is software that helps initialize the hardware in our computer and gets BIOS/UEFI: A low-level software that initializes our computer's hardware to make sure everything is good to go **Block storage:** It improves faster handling of data because the data isn't stored in one long piece but in blocks, so it BYOD (Bring Your Own Device): Refers to the practice of allowing people to use their own personal devices for work Cache: The assigned stored location for recently or frequently accessed data; on a mobile app it is where anything that was changed or created with that app is stored Character encoding: Is used to assign our binary values to characters so that we as humans can read them Charge cycle: One full charge and discharge of a battery Children's Online Privacy Protection Act (COPPA): Regulates the information we show to children under the age of Chrome OS: A Linux-based operating system designed by Google Clients: A device that receives data from a server Coding: Translating one language to another $\textbf{Compiled programming language:} A \ language \ that \ uses \ human \ readable \ instructions, then \ sends \ them \ through \ a$ Computer: A device that stores and processes data by performing calculations Copyright: Used when creating original work Chipset: It decides how components talk to each other on our machine Clock cycle: When you send a voltage to the clock wire Clock speed: The maximum number of clock cycles that it can handle in a set in a certain time period Clock wire: When you send or receive data, it sends a voltage to that clock wire to let the CPU know it can start doing Command Line Interface (CLI): A shell that uses text commands to interact with the operating system Computer file: Data that we store and a file can be anything, a word document, a picture, a song, literally anything CPU: Central processing unit CPU sockets: A CPU socket is a series of pins that connect a CPU's processor to the PC's motherboard $\textbf{Cryptography:} \ \text{The overarching discipline that covers the practice of coding and hiding messages from third parties}$ **DARPA:** A US government project in the 1960s that went on to create the earliest version of the Internet that we see Data blocks: Data that can be broken down into many pieces and written to different parts of the hard disk Data sizes: Metrics that refer to data sizes including bit, byte, kilobyte, kibibyte, and megabyte DDR SDRAM (Double Data Rate SDRAM): A type of RAM that is faster, takes up less power, and has a larger capacity than earlier SDRAM versions **Decimal form- base 10 system:** In the decimal system, there are 10 possible numbers you can use ranging from zero **Desktop:** The main screen where we can navigate our files, folders, and applications **Digital divide:** The growing skills gap between people with and without digital literacy skills DIMM: Dual Inline Memory Module Display port: Port which also outputs audio and video Distributions: Some common Linux distributions are Ubuntu, Debian, and Red Hat Domain name: A website name; the part of the URL following www. **Domain Name System (DNS):** A global and highly distributed network service that resolves strings of letters, such as a website name, into an IP address DRAM: Dynamic Random Access Memory **Drivers:** The drivers contain the instructions our CPU needs to understand external devices like keyboards, webcams, DVI: DVI cables generally just output video Electrostatic discharge: Electrostatic discharge is a sudden and momentary flow of electric current between two electrically charged objects caused by contact, an electrical short or dielectric breakdown .exe: A file extension found in Windows for an executable file Factory reset: Resetting a device to the settings it came with from the factory Fiber optic cable: Fiber optic cables contain individual optical fibers which are tiny tubes made of glass about the width of a human hair. Unlike copper, which uses electrical voltages, fiber cables use pulses of light to represent the ones and zeros of the underlying data File extension: The appended part of a filename that tells us what type of file it is in certain operating systems File handling: A process of storing data using a program File system: A system used to manage files Firmware: Software that's permanently stored on a computer component Finder: The file manager for all Macs Folders/Directories: Used to organize files Form factor: A mathematical way to compensate for irregularities in the shape of an object by using a ratio between its volume and height GIT: A version control system that helps keep track of changes made to files and directories Globalization: The movement that lets governments, businesses, and organizations communicate and integrate together on an international scale **Hard drive:** It is a long term memory component that holds all of our data, which can include music, pictures, applications Hardware resource deficiency: It refers to the lack of system resources like memory, hard drive space, et cetera HDD (Hard disk drive): Hard disk drives, or HDDs, use a spinning platter and a mechanical arm to read and write HDMI: A type of cable that outputs both video and audio Heatsink: It is used to dissipate heat from our CPU HFS+/APFS: HFS+ is a journaling system developed by Apple Inc. and APFS is another but more encrypted Apple $\textbf{Hostname:} \ \textbf{Used to identify the computer when it needs to talk to other computers}$ **Hubs:** Devices that serve as a central location through which data travels through Information technology. The use of digital technology, like computers and the internet, to store and process data into the internet of the computer of thInput/Output device: A device that performs input and output, including monitors, keyboards, mice, hard disk drives, speakers, bluetooth headsets, webcams, and network adapters Install image: A downloadable operating system image used to install an operating system on a device Instruction set: A list of instructions that our CPU is able to run Internet: A worldwide system of interconnected networks Internet Corporation for Assigned Names and Numbers (ICANN): Where website names are registered Internet of Things (IoT): The concept that more and more devices are connected to the internet in a smarter fashion such as smart thermostats that turn off the air conditioner when you leave and turn it on when you come back Internet Protocol version 4 (IPv4): An address that consists of 32 bits separated into four groups Internet Protocol version 6 (IPv6): An address that consist of a 128 bits, four times the amount that IPv4 uses Internet service provider (ISP): A company that provides a consumer an internet connection Interpreted programming language: A language that isn't compiled ahead of time IP address: The most common protocol used in the network layer, used to helps us route information ITX (Information Technology eXtended): A form factor for motherboards that is much smaller than ATX boards $\textbf{Kernel:} \ The \ main \ core \ of \ an \ operating \ system \ that \ creates \ processes, efficiently \ schedules \ them, \ and \ manages \ how$ processes are terminated Land Grid Array (LGA): It is a type of CPU socket that stick out of the motherboard Lightning adaptor: One of the standard power, data and display connector types used in mobile devices Linux OS: Linux is one of the largest an open source operating system used heavily in business infrastructure and in the Logic gates: Allow transistors to do more complex tasks, like decide where to send electrical signals depending on logical conditions Logs: Files that record system events on our computer MAC address: A globally unique identifier attached to an individual network interface. It's a 48-bit number normally represented by six groupings of two hexadecimal numbers Mac OS: Apple's operating system Memory controller chip (MCC): A bridge between the CPU and the RAM **Memory management:** One of the functions that a kernel performs; it optimizes memory usage and make sure our applications have enough memory to run Metadata: Tells us everything we need to know about a file, including who created it, when it was last modified, who has access to it, and what type of file it is Micro display port: One of the standard power, data and display connector types used in mobile devices Microsoft Terminal Services Client: A client program used to create RDP connections to remote computers Micro HDMI: One of the standard power, data and display connector types used in mobile devices Micro USB: One of the standard power, data and display connector types used in mobile devices Mini HDMI: One of the standard power, data and display connector types used in mobile devices Mini USB: One of the standard power, data and display connector types used in mobile devices Motherboard: The body or circulatory system of the computer that connects all the pieces together Network: The interconnection of computers Network Address Translation (NAT): A mitigation tool that lets organizations use one public IP address and many **Networking:** Managing, building and designing networks Networking protocols: A set of rules for how we transfer data in a network **Network stack:** A set of hardware or software that provides the infrastructure for a computer Northbridge: interconnects stuff like RAM and video cards Open SSH: The most popular program to use SSH within Linux $\textbf{Open source:} \ This means the developers will let other developers share, modify, and distribute their software for free and the developers will be a support of the developers of the deve$ $\textbf{Operating system:} \ \text{The whole package that manages our computers resources and lets us interact with } it$ Overclocking: it increases the rate of your CPU clock cycles in order to perform more tasks $\textbf{PC:} \ \text{Personal computer, which technically means a computer that one person uses}$ PCI Express: Peripheral Component Interconnect Express PDA (Personal Digital Assistant): Allows computing to go mobile $\textbf{Peripherals:} \ \text{the external devices which we connect to our computer that add functionality, like: a mouse, a keyboard,} \\$ Pin Grid Array (PGA): CPU socket where the pins are located on the processor itself Plink (PuTTY Link): A tool built into the command line after PuTTY is installed that is used to make remote SSH Ports: Connection points that we can connect devices to that extend the functionality of our computer POST (Power On Self Test): It figures out what hardware is on the computer Powershell: A shell (program that interprets text commands) for Windows Power supply: Converts electricity from our wall outlet onto a format that our computer can use Power user: Above average computer users **Process management:** The capacity to manage the many programs in a system - when to run them, the order they run in, how many resources they take up, how long they run, etc. Programming: Coding in a programming language Programming language: Special languages that software developers use to write instructions for computers to Programs: Basic instructions that tell the computer what to do Punch cards: A sequence of cards with holes in them to automatically perform calculations instead of manually Qwiklabs: An online platform which provides training in cloud services RAM: Random Access Memory Registers: An accessible location for storing the data that our CPU works with $\textbf{Reimaging:} \ The \ process \ of \ reimaging \ involves \ wiping \ and \ reinstalling \ an \ operating \ system \ using \ a \ disk \ image \ which \ is$ Remote connection: The ability to connect an authorized person to a computer or network remotely; allows us to manage multiple machines from anywhere in the world Remote Desktop Protocol (RDP): A secure network communication protocol developed by Microsoft that allows a user to connect to another device remotely Return merchandise authorization (RMA): The process of receiving returned merchandise and authorizing a refund **RGB model:** RGB or red, green, and blue model is the basic model of representing colors ROM chip (Read Only Memory): A read-only memory chip where the BIOS is stored Safe operating temperature: The temperature range in which rechargeable batteries must be kept in order to avoid SATA: The most popular serial ATA drive, which uses one cable for data transfers Scalability: The measure of a system's ability to increase or decrease in performance and cost in response to varying $\textbf{Script:} \ \textbf{It is run by an interpreter, which interprets the code into CPU instructions just in time to run them$ **Scripting:** Coding in a scripting language $\textbf{SDRAM:} \ \textbf{It stands for Synchronous DRAM, this type of RAM is synchronized to our systems' clock speed allowing quicker}$ processing of data Server logs: Text files that contains recorded information about activities performed on a specific web server in a Servers: Devices that provide data to other devices that request that data, also known as a client Shell: A program that interprets text commands and sends them to the OS to execute SOC (System On a Chip): Packs the CPU, Ram, and sometimes even the storage onto a single chip Software: The intangible instructions that tell the hardware what to do Software bug: An error in software that causes unexpected results $\textbf{Southbridge:} \ \textbf{It maintains our IO or input/output controllers, like hard drives and USB devices that input and output and output and output are supported by the property of the prope$ SSD: Solid State Drive **SSH (Secure shell):** A protocol implemented by other programs to securely access one computer from another. SSH authentication key: A secure authentication method for accessing a computer from other device SSH client: A program you must have installed on your device in order to establish an SSH connection with another **SSH server:** Software installed on a machine that allows for that device to accept an SSH connection Standardization: A systematic way of naming hosts **Standoffs:** Used to raise and attach your motherboard to the case $\textbf{Swap space:} \ \text{The allocated space where the virtual memory is stored on the hard drive when the amount of physical} \\$ Switches: Devices that help our data travel **System:** A group of hardware components and software components that work together to fun the programs or processes in the computer System settings: Settings like display resolution, user accounts, network, devices, etc. System software: Software used to keep our core system running, like operating system tools and utilities **Task bar:** It gives us quick options and shows us information like network connectivity, the date, system notifications, **Thermal paste:** A substance used to better connect our CPU and heat sink, so the heat transfers from to the other Time slice: A very short interval of time that gets allocated to a process for CPU execution Transfer Control Protocol (TCP): A protocol that handles reliable delivery of information from one network to another Type-C connector: A type of USB connector meant to replace many peripheral connections Ubuntu: The most popular Linux consumer distribution **UEFI:** United Extensible Firmware Interface Uniform Resource Locator (URL): A web address similar to a home address USB (Universal Serial Bus): A connection standard for connecting peripherals to devices such as computers USB-C adapter: One of the standard power, data and display connector types used in mobile devices User name: A unique identifier for a user account

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Course Wrap Up

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User space: The aspect of an operating system that humans interact with directly like programs, such as text editors,

Virtual Box: An application you can use to install Linux and have it completely isolated from your machine Virtual machine (VM): An application that uses physical resources like memory, CPU and storage, but they offer the

Virtual memory: A combination of hard drive space and RAM that acts like memory which our processes can use VPN (Virtual private network): A secure method of connecting a device to a private network over the internet

WannaCry Attack: A cyber attack that started in Europe and infected hundreds of thousands of computers across the

World Wide Web (WWW): The information system that enables documents and other web resources to be accessed

Wireless networking (Wi-Fi): Networks you connect to through radios and antennas

UTF-8: The most prevalent encoding standard used today

added benefit of running multiple operating systems at once