



PORTFOLIO #6

Presentation

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CONTENT

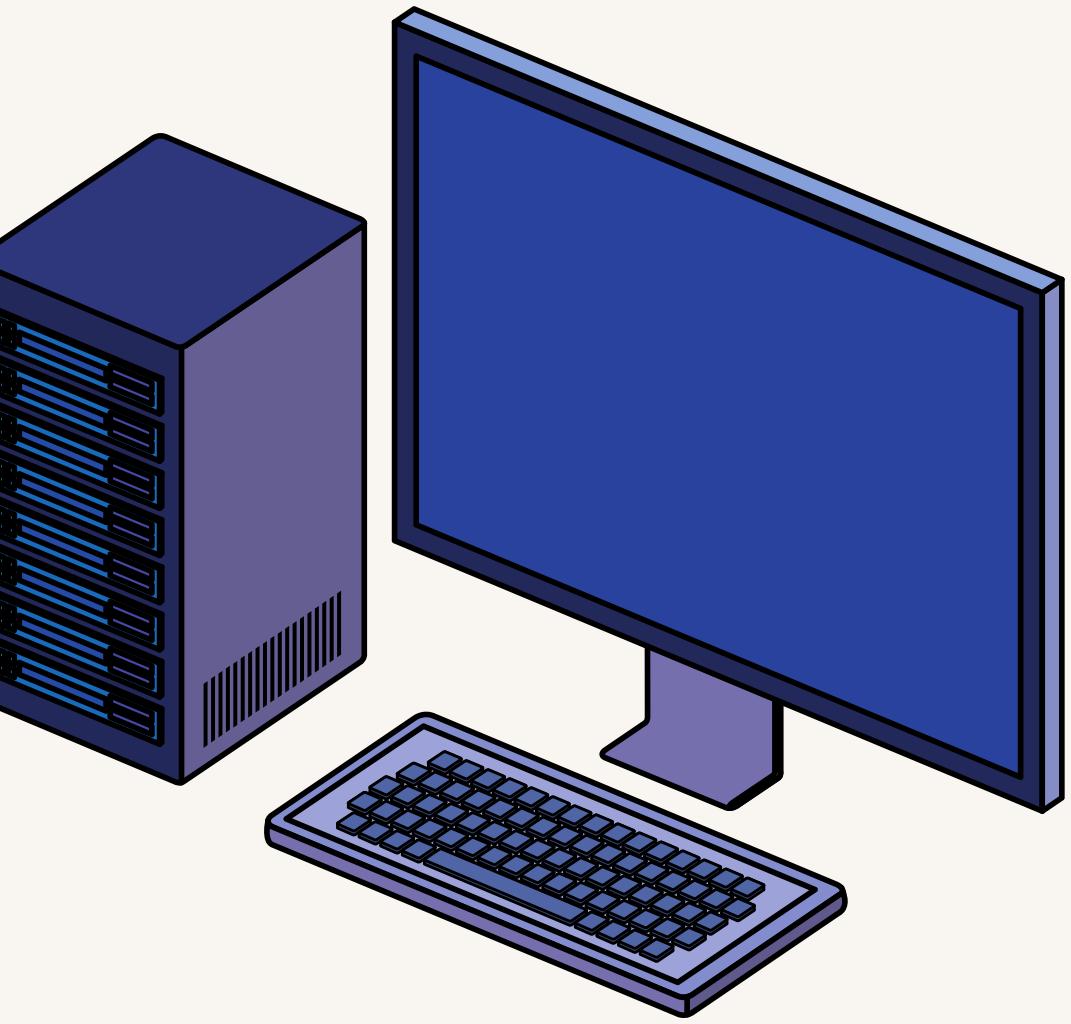
- **What is a Computer?**
- **History of Computers**
- **What are the different types of Computers and their uses?**
- **Differences between Computer Types**
- **Compare and Contrast**



WHAT IS A COMPUTER?

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- A computer is an electronic device capable of processing and storing information. It can do computations, handle data, and carry out instructions to accomplish specified tasks.
- A computer's fundamental components include the CPU, RAM, Hard drive or Solid-state drive, Input devices (keyboard etc.), output devices (monitor etc.), and numerous peripheral devices.





HISTORY OF THE COMPUTER

HISTORY OF THE MOTHERBOARD

- The development of computers began thousands of years ago with devices like the abacus. Mechanical calculators followed, paving the way for modern computing. In the mid-19th century, Charles Babbage and Ada Lovelace introduced key designs, such as the difference and analytical engines. The 20th century brought groundbreaking innovations like the ENIAC, UNIVAC, transistors, integrated circuits, and microprocessors. Personal computers became widely popular with the rise of the Internet and World Wide Web in the 1990s. Today, advanced technologies like AI, quantum computing, and cloud technology drive the evolution of sophisticated systems.





WHAT ARE THE DIFFERENT TYPES OF COMPUTERS AND THEIR USES?

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TYPES OF COMPUTERS	SAMPLE IMAGE	DESCRIPTION	USAGE
Supercomputer		<p>A supercomputer is an exceptionally powerful computer designed to perform complex calculations and process massive amounts of data at incredibly high speeds, operating at or near the highest performance levels achievable by modern computing systems.</p>	<p>Supercomputers are designed to handle resource-intensive calculations that general-purpose computers cannot manage. They are often used to simulate experiments that are too costly, dangerous, or impossible to conduct in real life, such as simulating how stars explode.</p>
Mainframe Computers		<p>A mainframe computer is a large, powerful computer used for complex calculations and data processing, allowing multiple users to access applications simultaneously without affecting performance or security.</p>	<p>Mainframe computers are commonly utilized by large corporations for mission-critical applications. This includes handling enormous amounts of data for tasks such as censuses, industry and consumer analytics, enterprise resource planning, and large transaction processing.</p>
Mini Computers		<p>A minicomputer is a smaller, less expensive, and less powerful alternative to a mainframe or supercomputer, yet more powerful and costly than a personal computer, offering most of the features of larger systems.</p>	<p>Minicomputers are mainly used as small or mid-range servers operating business and scientific applications.</p>
Server		<p>A server is a special type of powerful computer that is designed to manage network resources, compute, store data, and provide services to other devices and systems within a network.</p>	<p>Server computers are most commonly used for web hosting, offering shared access to resources, storing and managing massive volumes of data, application processing, delivering email services, and running other specialized software.</p>
Workstations		<p>A workstation computer is a high-performance computer designed for professional use, with more power than most personal computers. It has faster CPUs, which can handle complicated tasks quickly. With plenty of RAM and lots of storage, these PCs can run multiple intensive programs without slowing down.</p>	<p>Workstation computers are designed to be used for and to handle demanding workflows such as data science, 3D design, video editing, and engineering.</p>
Micro Computers		<p>A microcomputer is a complete computer on a small scale, designed for use by one person at a time. An antiquated term, a microcomputer is now primarily called a personal computer. In modern usage, microcomputers are complete computer systems that are smaller than a normal PC, such as single-board computers.</p>	<p>Microcomputers are widely used for education, entertainment, and various applications, including word processing, spreadsheets, presentations, communication, and database management. In business, they support tasks like bookkeeping, inventory management, and communication, while in medical settings, they help manage patient data, healthcare plans, and schedules. Financial institutions use them for transactions, billing, payroll, and auditing, and the military employs them for training and data processing.</p>



DIFFERENCES BETWEEN COMPUTER TYPES

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Types of Computers	Name/Brand	CPU	Memory	Processing Speed	Calculating Power	Working Principle	Energy Consumption	Field of Use
Supercomputer	Summit, Fugaku	Multiple high-performance CPUs	Large amounts of RAM and specialized memory	Extremely high	Extremely high	Parallel processing	Very high	Scientific research, weather forecasting, simulations
Mainframe Computers	IBM zSeries, Fujitsu PRIMEHPC FX1000	Multiple powerful CPUs	Large amounts of RAM and specialized memory	High	High	Parallel processing	High	Large-scale data processing, transaction processing, business applications
Mini Computers	VAX, PDP-11	Single or multiple CPUs	Moderate amounts of RAM	Medium	Medium	Parallel processing	Medium	Small-scale data processing, departmental servers, embedded systems
Server	Dell PowerEdge, HP ProLiant	Multiple CPUs	Large amounts of RAM	High	High	Parallel processing	High	Hosting websites, email servers, database servers, network services
Workstations	Apple Mac Pro, Dell Precision	High-performance CPUs	Large amounts of RAM and specialized graphics cards	High	High	Sequential processing	High	Engineering, design, scientific research, video editing, 3D modeling
Micro Computers	Desktop PCs, Laptops, Tablets	Single or dual-core CPUs	Moderate amounts of RAM	Low to medium	Low to medium	Sequential processing	Low to medium	Personal computing, education, entertainment, communication



COMPARE AND CONTRAST

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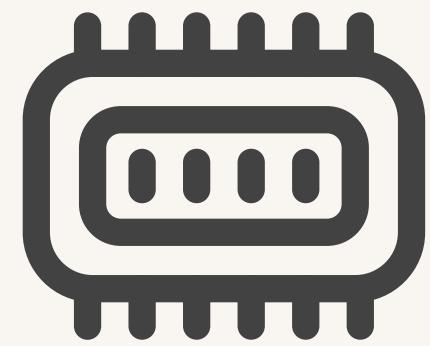
Processing Speed

- Mini Computer: Medium to high processing speed, capable of handling multiple users and tasks simultaneously.
- Micro Computer: Low to medium processing speed, designed for individual users and basic tasks.
- Workstation: High processing speed, optimized for demanding tasks like 3D modeling, video editing, and scientific calculations.
- Server: High processing speed, capable of handling large workloads and multiple users simultaneously.



Memory Capacity

- Mini Computer: Medium to high memory capacity, allowing for multiple users and applications to run simultaneously.
- Micro Computer: Low to medium memory capacity, suitable for basic tasks and individual users.
- Workstation: High memory capacity, essential for running resource-intensive applications.
- Server: High memory capacity, allowing for efficient handling of large datasets and multiple users.



Power Consumption:

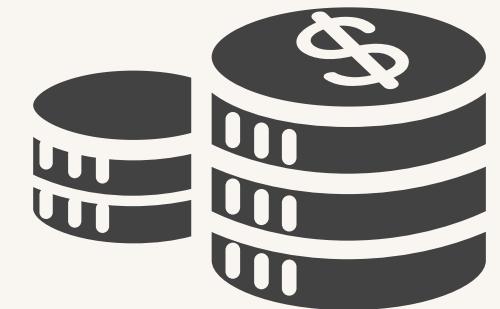
- Mini Computer: Medium power consumption, typically requiring dedicated power supplies.
- Micro Computer: Low power consumption, often powered by standard wall outlets.
- Workstation: Medium to high power consumption, requiring dedicated power supplies and cooling systems.
- Server: High power consumption, requiring dedicated power supplies and cooling systems.



COMPARE AND CONTRAST

Usage:

- Mini Computer: Used in small to medium-sized businesses, educational institutions, and research labs.
- Micro Computer: Used by individuals for personal tasks, such as browsing the internet, word processing, and playing games.
- Workstation: Used by professionals in fields like engineering, design, and scientific research.
- Server: Used to store and manage data, provide network services, and host websites and applications.



Cost:

- Mini Computer: Medium to high cost, due to their capabilities and specialized hardware.
- Micro Computer: Low to medium cost, making them affordable for individual users.
- Workstation: High cost, due to their high-performance components and specialized software.
- Server: Medium to high cost, depending on their capabilities and configuration.





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