

INFORMATION AND COMMUNICATION TECHNOLOGY



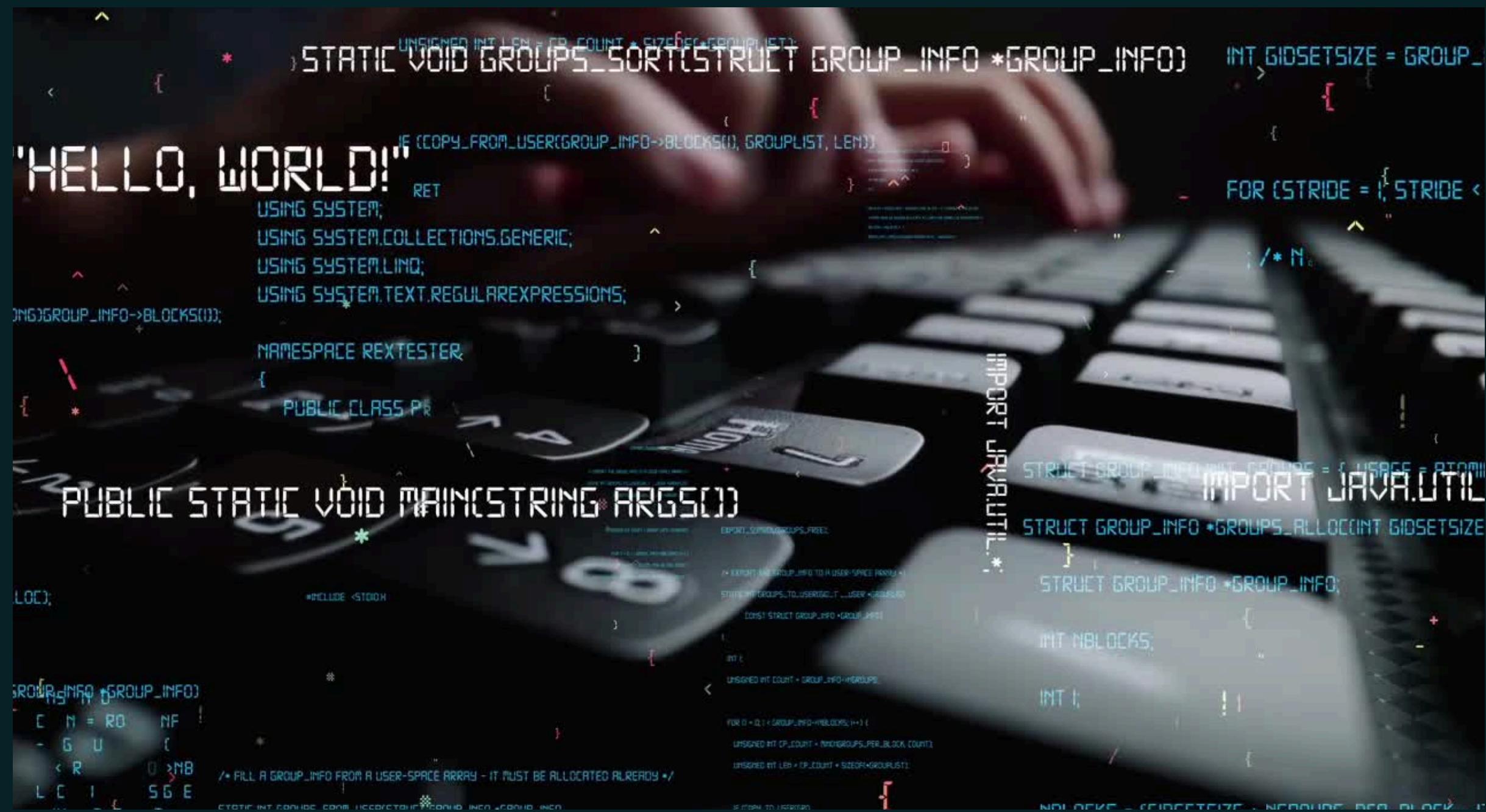
CM 1 Section 1
GEITE01X - Living in the IT Era
IGE - Science & Mathematics Department



Module Goals

- Use the various roles of information technology in addressing real world problems.
- Articulate the importance of information technology to one's life.
- Argue about the concept of information and communication technology, what it is and how it is used.
- Identify the different technologies and its improvement through the years.

History of ICT



Information Technology (IT)

It encompasses the utilization, creation, and oversight of computer-based systems, software, and networks for the storage, processing, transmission, and retrieval of data.



Information and Communication Technology



There is no universal definition for ICT due to how broad it is, but it is usually agreed upon that it has more to do with communication than Information Technology does.

- ICT is more inclusive of technologies that allows you to communicate with others and is a direct extension of IT.
-
-

IMPACT

Education



ICT has profoundly impacted education by introducing e-learning platforms, online courses, and digital libraries, revolutionizing access to knowledge dissemination.

Research



IT supports scientific research by providing computational resources, data processing tools and specialized software for tasks such as data analysis, simulations, and modeling.

Entertainment



ICT has significantly transformed the entertainment industry by revolutionizing how content is created, distributed, and consumed.

Business



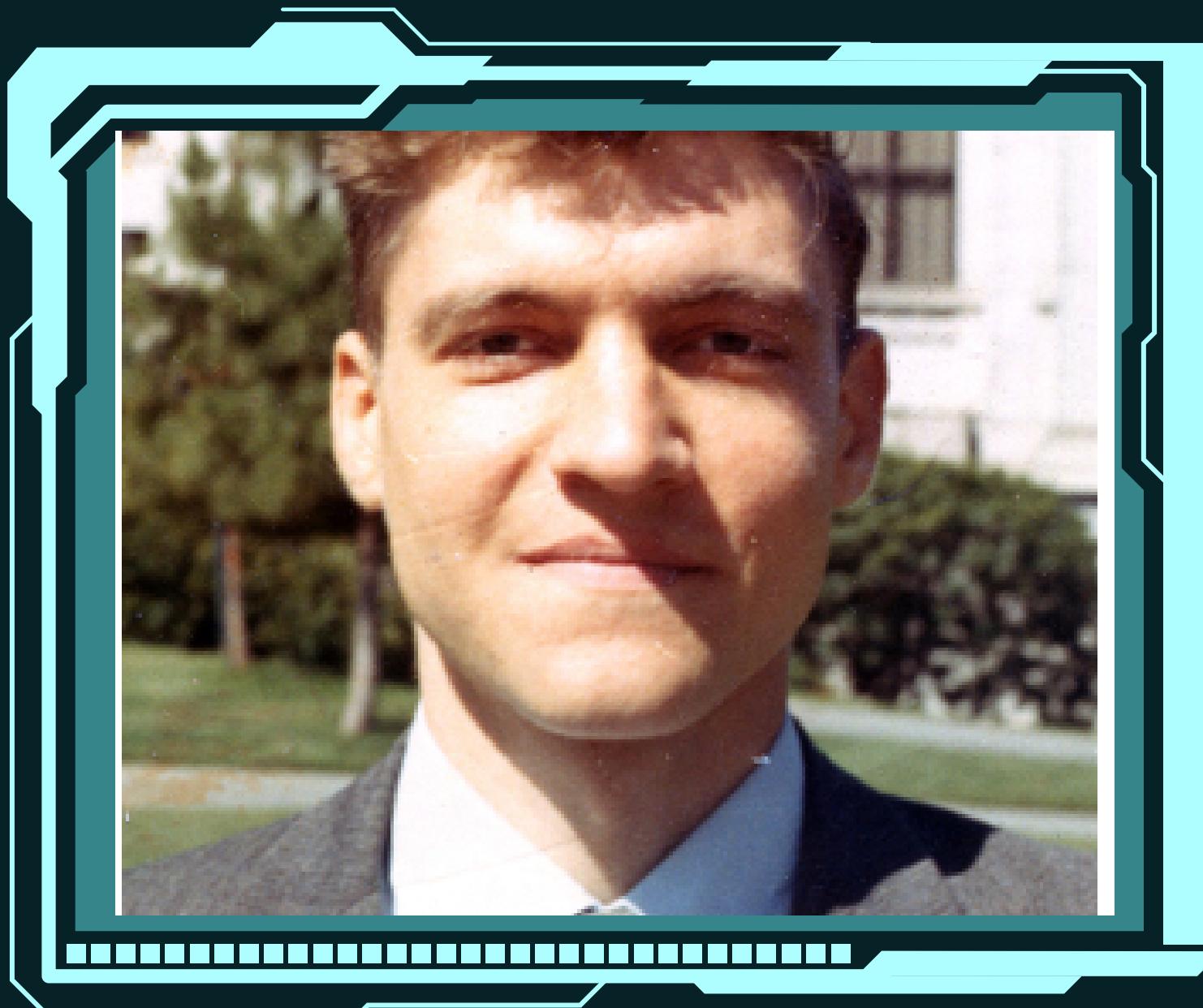
ICT serves as the backbone for critical functions such as enterprise resource planning (ERP), customer relationship management (CRM), and supply chain management.

Digital Forensics



IT plays a crucial role in digital forensics, aiding in the investigation and analysis of digital evidence in legal and criminal inquiries.

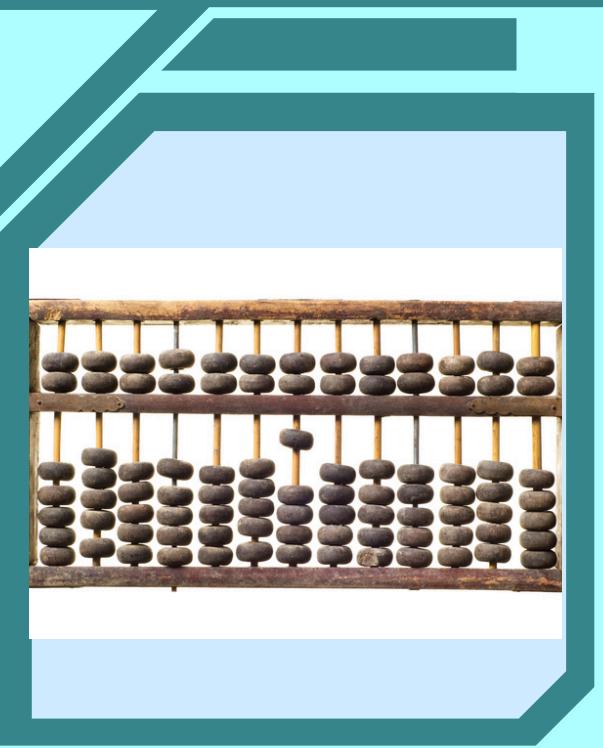
Theodore Kaczynski (The Unabomber)



Humans are biologically and psychologically maladapted to life in a technological society.

The continued development of the technological system will inevitably lead to destruction of humanity

History of Hardware and Software



Pre-Modern
Computing
Abacus



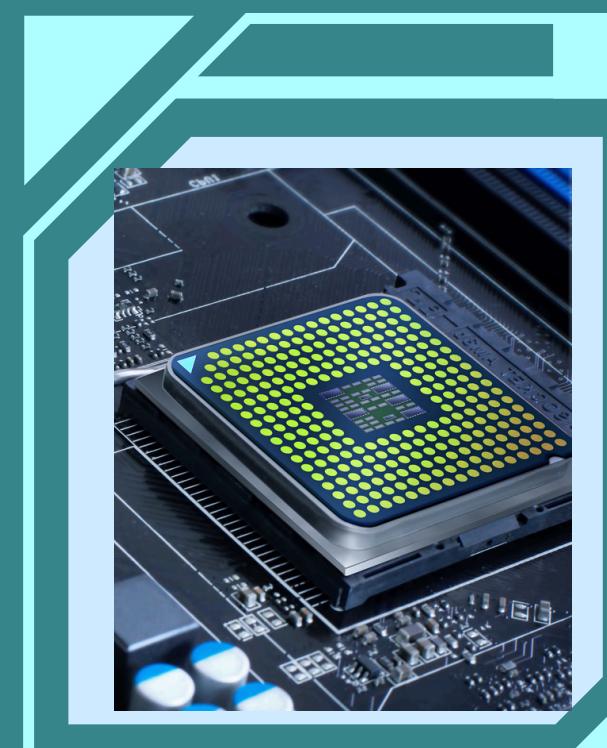
First Generation
Computers
ENIAC & UNIVAC



Second Generation
Computers
Transistors & IBM



Third Generation Computers
Integrated Circuits &
Mainframes



1970s - Present
Microprocessors, PC,
Mobile Computing



Types of Computers

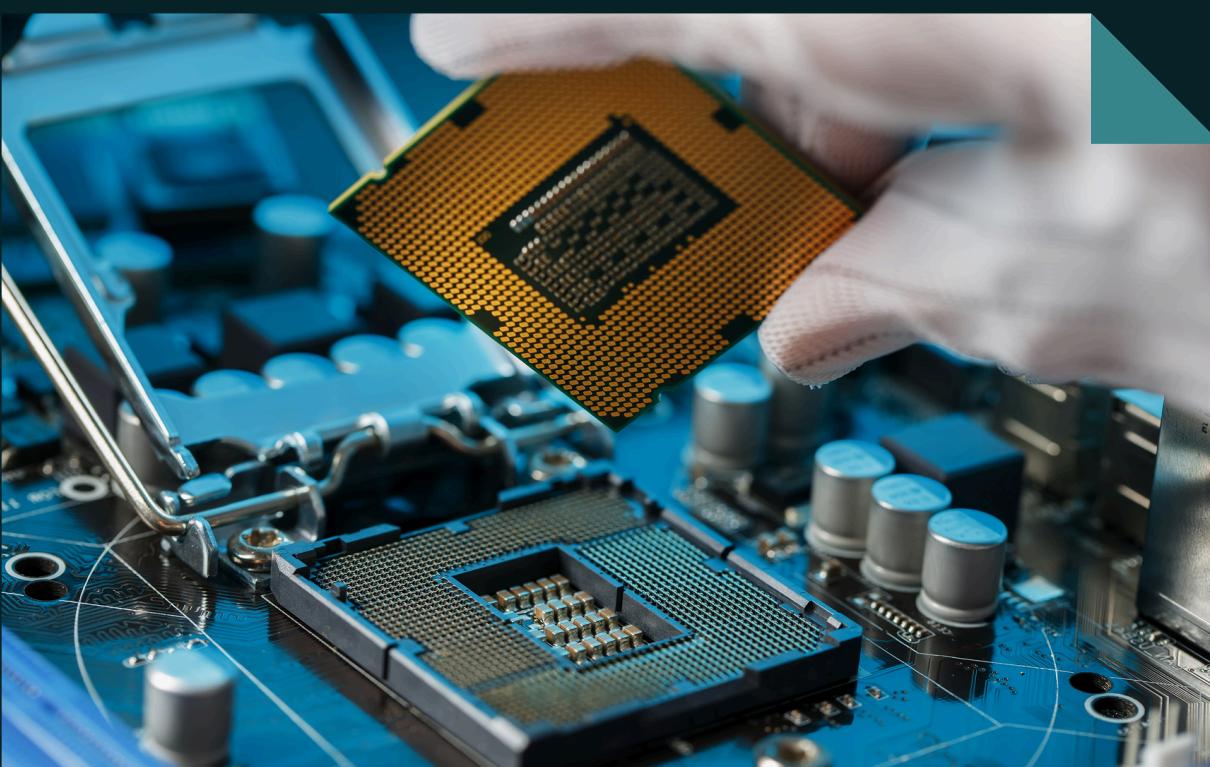
- Supercomputers
- Mainframes
- Servers
- Personal Computers
- Embedded System

Internal Components of a Computer

Central Processing Unit

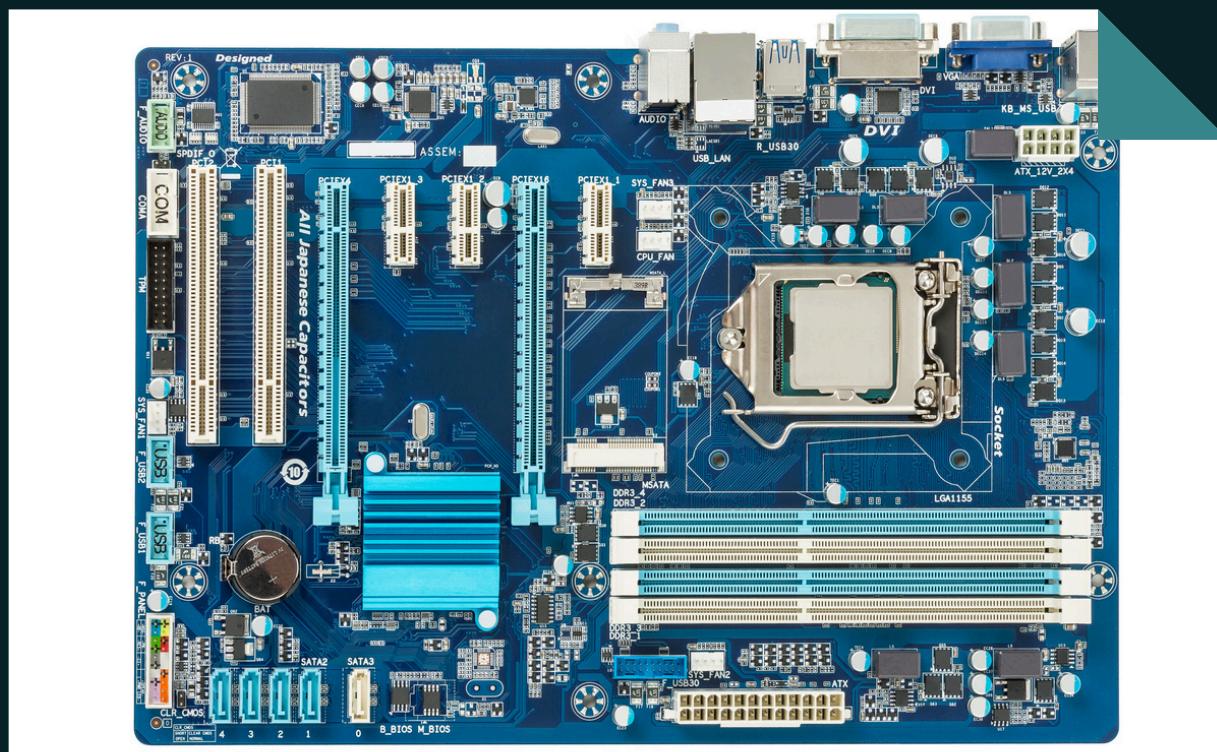
The brain of the computer that performs calculations and executes instructions.

-
-
-
-



Internal Components of a Computer

Motherboard



The main circuit board that connects all internal components and allow them to communicate.

-
-
-
-

Internal Components of a Computer

Memory (RAM)

Temporary storage used by the CPU to store data that is being processed.

-
-
-
-



Internal Components of a Computer

Storage Drives (HDD/SSD)

Devices that store data permanently. Hard Disk Drives (HDD) use spinning disks, while Solid-State Drives (SSD) use flash memory.

-
-
-
-



Internal Components of a Computer

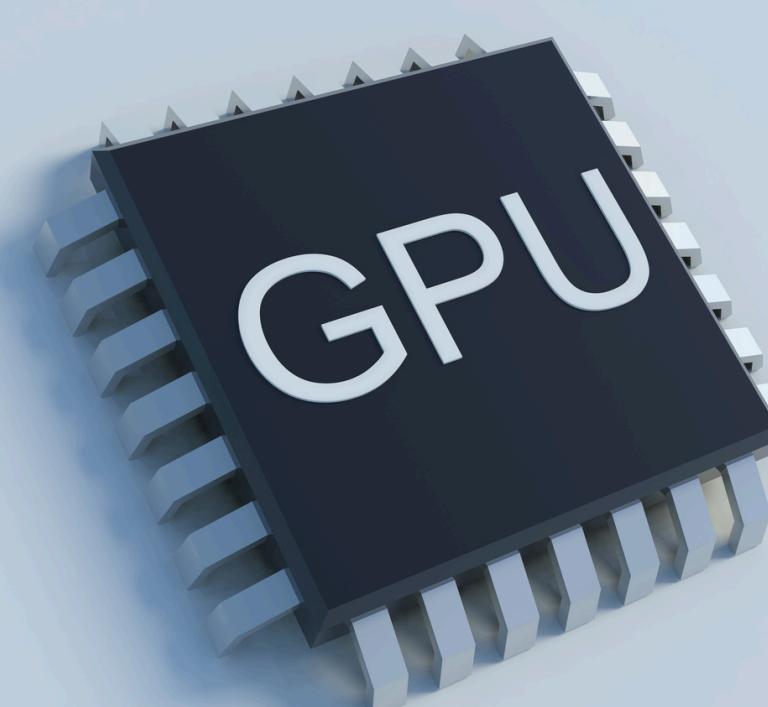
Power Supply Unit (PSU)

Converts electrical power from an outlet into usable power for the computer's internal components.

-
-
-
-



Internal Components of a Computer



Graphics Processing Unit (GPU)

Handles rendering of images, video, and animations. Essential for gaming, video editing, and graphic design. The Graphics Processing Unit (GPU) is also used for computing tasks beyond rendering images and videos e.g. mining cryptocurrencies.

-
-
-
-

Peripheral Devices

Input Devices

Allow users to input data into the computer. Examples include keyboards, mice, scanners, and microphones.

-
-
-
-



Peripheral Devices

Output Devices

Display or output data from the computer. Examples include monitors, printers, and speakers.

-
-
-
-



Peripheral Devices

Storage Devices

External devices for storing data. Examples include external hard drives, USB flash drives, and memory cards.

-
-
-
-

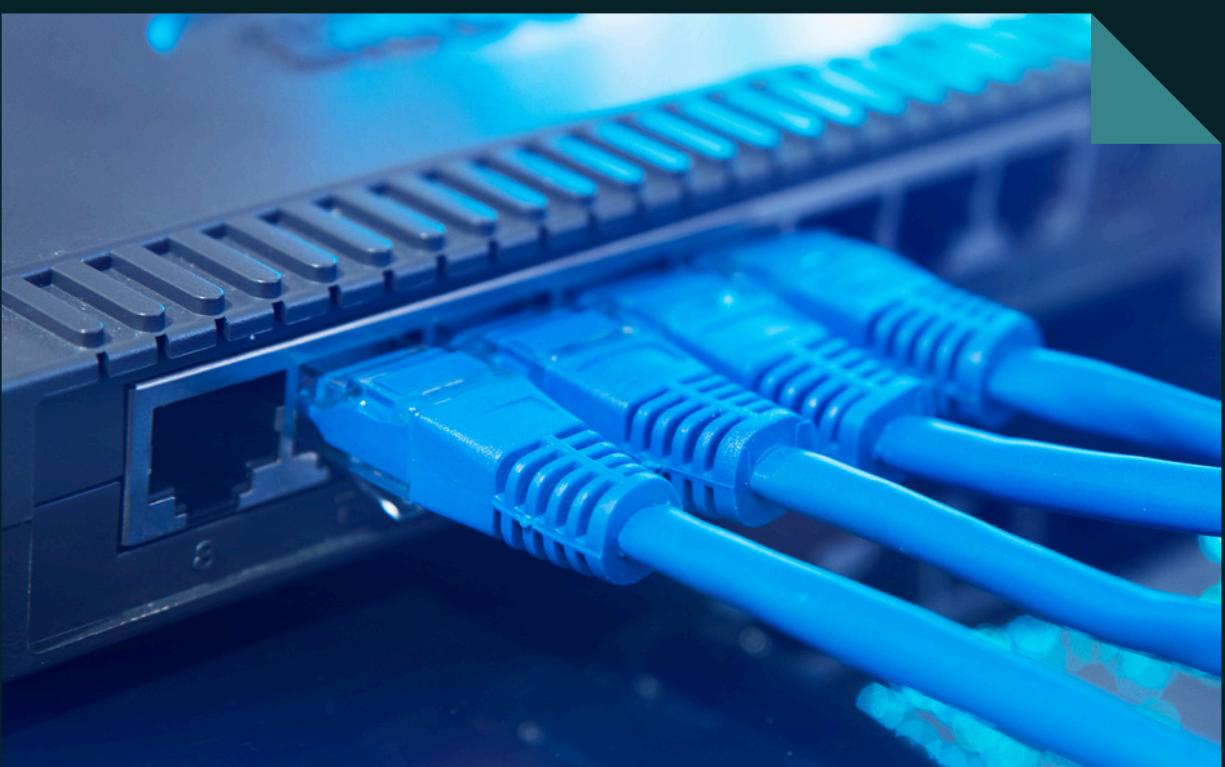


Peripheral Devices

Network Devices

Enable computers to connect to networks. Examples include modems, routers, and network adapters.

-
-
-
-



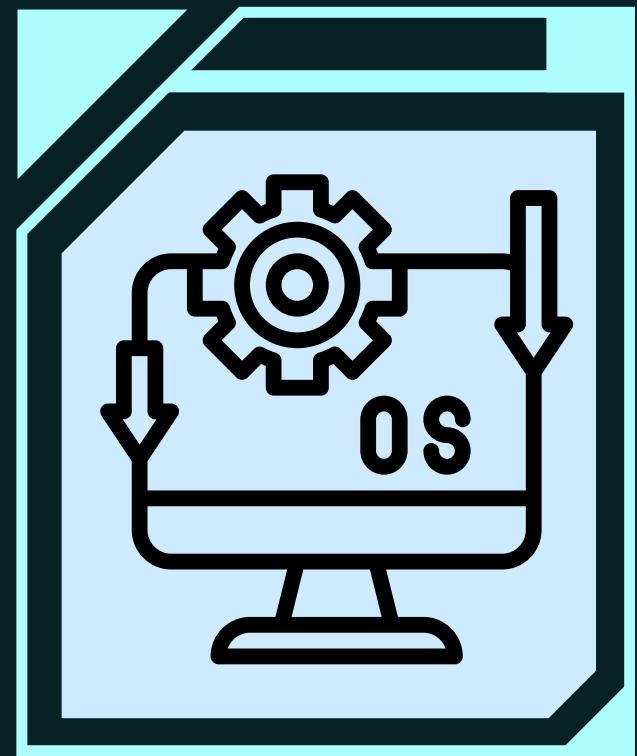
Computer Software



Computer software refers to a collection of data or computer instructions that tell the computer how to work.

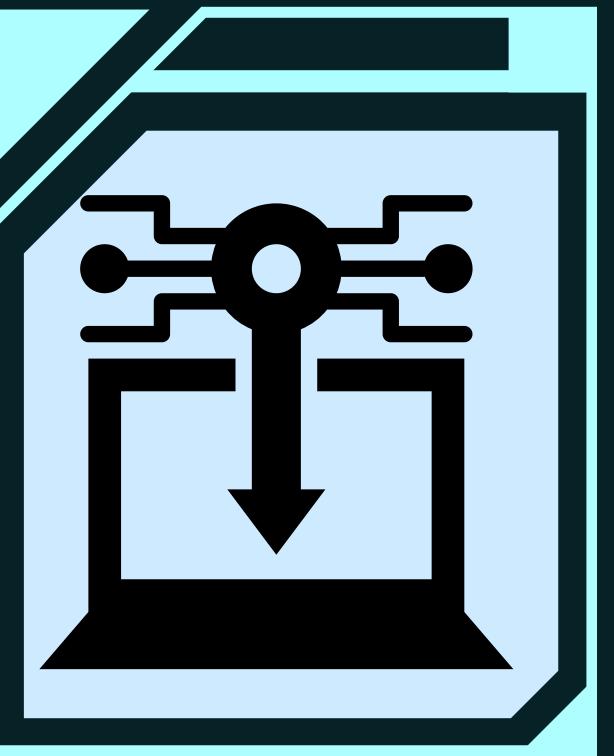
It is the intangible component of a computer, as opposed to the physical hardware.

System Software

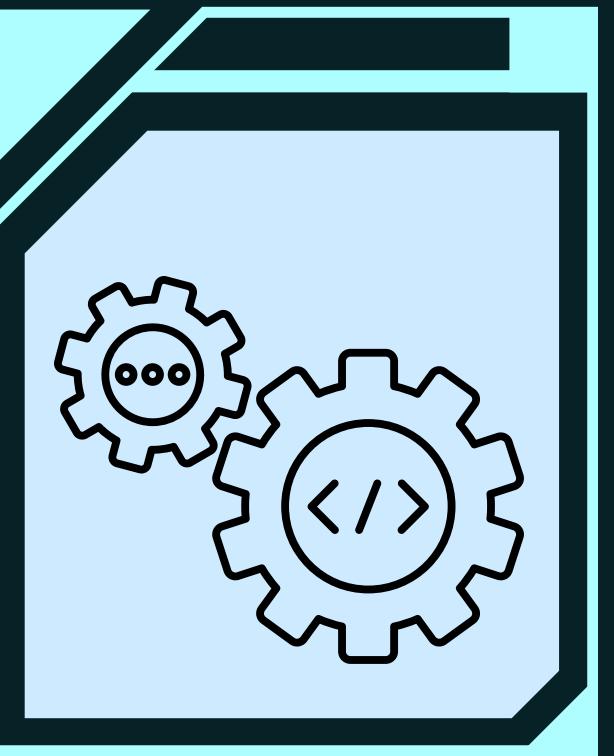


Operating System (OS)

Microsoft Windows, macOS,
Linux & android

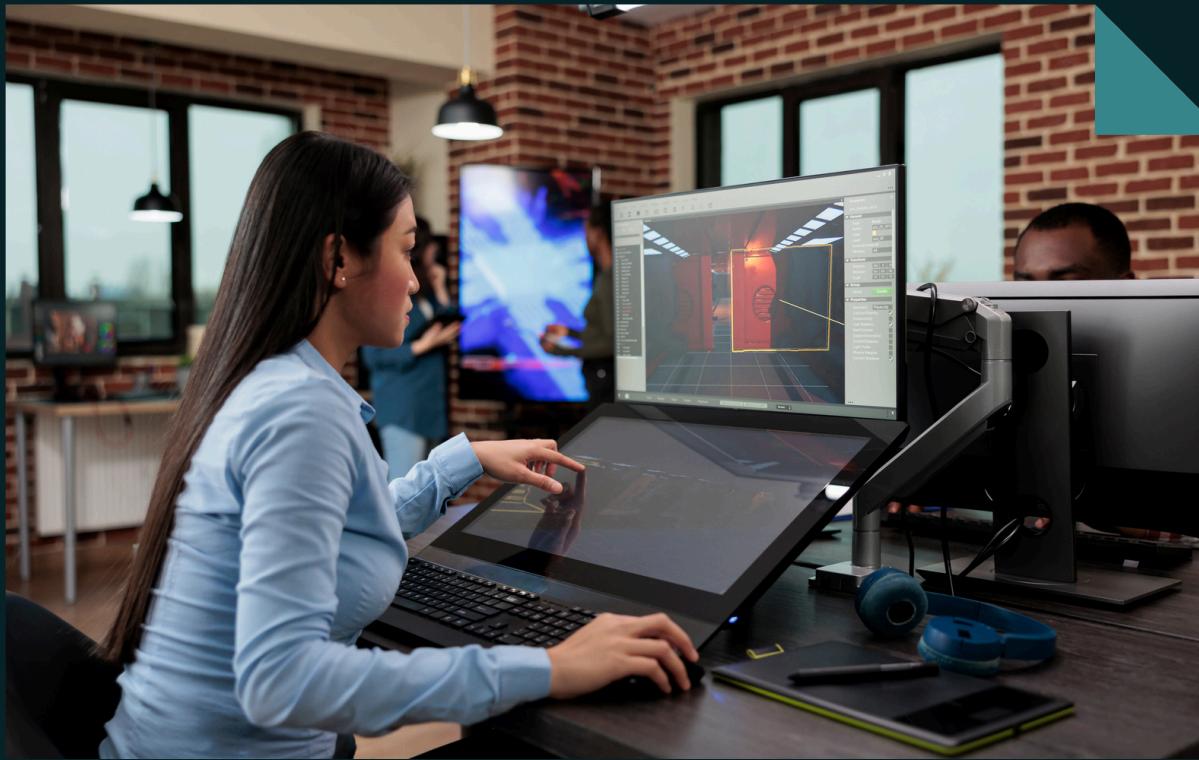


Device Drivers



Utility Programs
Virus scanning,
disk cleanup

Application Software



Productivity Software

Tools that assist users in creating documents, spreadsheets, presentations, and other work-related tasks. Examples include Microsoft Office (Word, Excel, PowerPoint), Google Workspace, and Adobe Acrobat.

-
-
-
-

Application Software

Media Players

Software for playing audio and video files. Examples include VLC Media Player, Windows Media Player, and iTunes.



•

•

•

•

Application Software

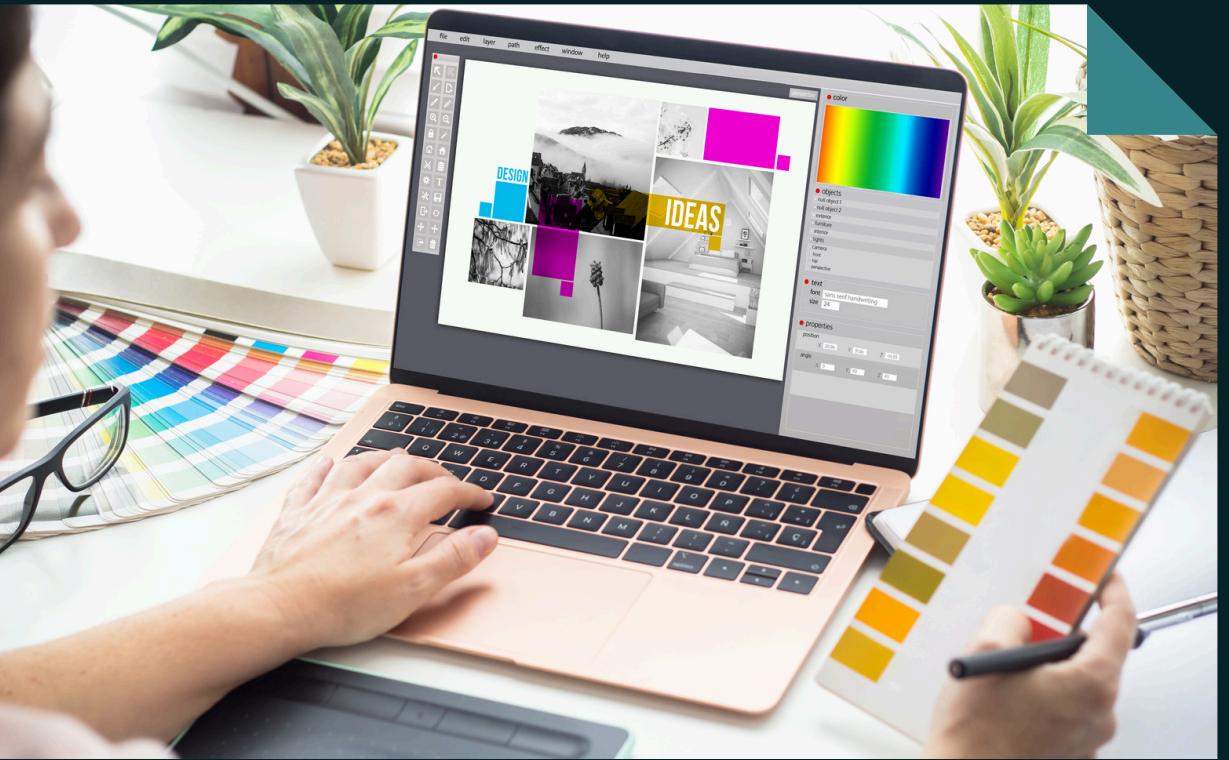


Web Browsers

Applications for accessing and navigating the internet. Examples include Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari

-
-
-
-

Application Software



Graphics and Design Software

Tools for creating and editing images, videos, and animations.
Examples include Adobe Photoshop, Illustrator, and Premiere Pro.

Application Software



Communication Software

Programs that facilitate communication through email, instant messaging, and video conferencing. Examples include Microsoft Outlook, WhatsApp, and Zoom

-
-
-
-

Application Software



Games and Entertainment Software

Applications designed for entertainment, including video games and other interactive media.

-
-
-
-



THANK YOU