**INTRODUCTION**

A broad range of [industrial](https://en.wikipedia.org/wiki/Programmable_logic_controller" \o "Programmable logic controller) and [consumer products](https://en.wikipedia.org/wiki/Consumer_electronics" \o "Consumer electronics) use computers as [control systems](https://en.wikipedia.org/wiki/Control_system" \o "Control system). Simple special-purpose devices like [microwave ovens](https://en.wikipedia.org/wiki/Microwave_oven" \o "Microwave oven) and [remote controls](https://en.wikipedia.org/wiki/Remote_control" \o "Remote control) are included, as are factory devices like [industrial robots](https://en.wikipedia.org/wiki/Industrial_robot" \o "Industrial robot) and [computer-aided design](https://en.wikipedia.org/wiki/Computer-aided_design" \o "Computer-aided design), as well as general-purpose devices like [personal computers](https://en.wikipedia.org/wiki/Personal_computer" \o "Personal computer) and [mobile devices](https://en.wikipedia.org/wiki/Mobile_device" \o "Mobile device) like [smart phones](https://en.wikipedia.org/wiki/Smartphone" \o "Smartphone). Computers power the [Internet](https://en.wikipedia.org/wiki/Internet" \o "Internet), which links billions of other computers and users.

**FIRST WEEK - DAY ONE**

**MEANING AND INVENTION OF COMPUTER**

A computer is a [digital electronic](https://en.wikipedia.org/wiki/Digital_electronics" \o "Digital electronics) [machine](https://en.wikipedia.org/wiki/Machine" \o "Machine) that can be programmed to [carry out](https://en.wikipedia.org/wiki/Execution_(computing)" \o "Execution (computing)) [sequences](https://en.wikipedia.org/wiki/Sequence" \o "Sequence) of [arithmetic](https://en.wikipedia.org/wiki/Arithmetic" \o "Arithmetic) or [logical operations](https://en.wikipedia.org/wiki/Logical_operations" \o "Logical operations) ([computation](https://en.wikipedia.org/wiki/Computation" \o "Computation)) automatically. Modern computers can perform generic sets of operations known as [programs](https://en.wikipedia.org/wiki/Computer_program" \o "Computer program). These programs enable computers to perform a wide range of tasks. A **computer system** is a "complete" computer that includes the [hardware](https://en.wikipedia.org/wiki/Computer_hardware" \o "Computer hardware), [operating system](https://en.wikipedia.org/wiki/Operating_system" \o "Operating system) (main [software](https://en.wikipedia.org/wiki/Software" \o "Software)), and [peripheral](https://en.wikipedia.org/wiki/Peripheral" \o "Peripheral) equipment needed and used for "full" operation. This term may also refer to a group of computers that are linked and function together, such as a [computer network](https://en.wikipedia.org/wiki/Computer_network" \o "Computer network) or [computer cluster](https://en.wikipedia.org/wiki/Computer_cluster" \o "Computer cluster).

Early computers were meant to be used only for calculations. Simple manual instruments like the [abacus](https://en.wikipedia.org/wiki/Abacus" \o "Abacus) have aided people in doing calculations since ancient times. Early in the [Industrial Revolution](https://en.wikipedia.org/wiki/Industrial_Revolution" \o "Industrial Revolution), some mechanical devices were built to automate long tedious tasks, such as guiding patterns for [looms](https://en.wikipedia.org/wiki/Loom" \o "Loom). More sophisticated electrical [machines](https://en.wikipedia.org/wiki/Machine" \o "Machine) did specialized [analog](https://en.wikipedia.org/wiki/Analogue_electronics" \o "Analogue electronics) calculations in the early 20th century. The first [digital](https://en.wikipedia.org/wiki/Digital_data" \o "Digital data) electronic calculating machines were developed during [World War II](https://en.wikipedia.org/wiki/World_War_II" \o "World War II). The first [semiconductor](https://en.wikipedia.org/wiki/Semiconductor" \o "Semiconductor) [transistors](https://en.wikipedia.org/wiki/Transistor" \o "Transistor) in the late 1940s were followed by the [silicon](https://en.wikipedia.org/wiki/Silicon" \o "Silicon)-based [MOSFET](https://en.wikipedia.org/wiki/MOSFET" \o "MOSFET) (MOS transistor) and [monolithic integrated circuit](https://en.wikipedia.org/wiki/Monolithic_integrated_circuit" \o "Monolithic integrated circuit) (IC) chip technologies in the late 1950s, leading to the [microprocessor](https://en.wikipedia.org/wiki/Microprocessor" \o "Microprocessor) and the [microcomputer revolution](https://en.wikipedia.org/wiki/Microcomputer_revolution" \o "Microcomputer revolution) in the 1970s. The speed, power and versatility of computers have been increasing dramatically ever since then, with [transistor counts](https://en.wikipedia.org/wiki/Transistor_count" \o "Transistor count) increasing at a rapid pace (as predicted by [Moore's law](https://en.wikipedia.org/wiki/Moore%27s_law" \o "Moore's law)), leading to the [Digital Revolution](https://en.wikipedia.org/wiki/Digital_Revolution" \o "Digital Revolution) during the late 20th to early 21st centuries.

**First computer**

[Charles Babbage](https://en.wikipedia.org/wiki/Charles_Babbage" \o "Charles Babbage), an English mechanical engineer and [polymath](https://en.wikipedia.org/wiki/Polymath" \o "Polymath), originated the concept of a programmable computer. Considered the "[father of the computer](https://en.wikipedia.org/wiki/Computer_pioneer" \o "Computer pioneer)", he conceptualized and invented the first [mechanical computer](https://en.wikipedia.org/wiki/Mechanical_computer" \o "Mechanical computer) in the early 19th century. After working on his revolutionary [difference engine](https://en.wikipedia.org/wiki/Difference_engine" \o "Difference engine), designed to aid in navigational calculations, in 1833 he realized that a much more general design, an [Analytical Engine](https://en.wikipedia.org/wiki/Analytical_Engine" \o "Analytical Engine), was possible. The input of programs and data was to be provided to the machine via [punched cards](https://en.wikipedia.org/wiki/Punched_card" \o "Punched card), a method being used at the time to direct mechanical [looms](https://en.wikipedia.org/wiki/Loom" \o "Loom) such as the [Jacquard loom](https://en.wikipedia.org/wiki/Jacquard_loom" \o "Jacquard loom). For output, the machine would have a printer, a curve plotter and a bell. The machine would also be able to punch numbers onto cards to be read in later. The Engine incorporated an [arithmetic logic unit](https://en.wikipedia.org/wiki/Arithmetic_logic_unit" \o "Arithmetic logic unit), [control flow](https://en.wikipedia.org/wiki/Control_flow" \o "Control flow) in the form of [conditional branching](https://en.wikipedia.org/wiki/Conditional_branching" \o "Conditional branching) and [loops](https://en.wikipedia.org/wiki/Program_loop" \l "Loops" \o "Program loop), and integrated [memory](https://en.wikipedia.org/wiki/Computer_memory" \o "Computer memory), making it the first design for a general-purpose computer that could be described in modern terms as [Turing-complete](https://en.wikipedia.org/wiki/Turing-complete" \o "Turing-complete).

The machine was about a century ahead of its time. All the parts for his machine had to be made by hand – this was a major problem for a device with thousands of parts. Eventually, the project was dissolved with the decision of the [British Government](https://en.wikipedia.org/wiki/British_Government" \o "British Government) to cease funding. Babbage's failure to complete the analytical engine can be chiefly attributed to political and financial difficulties as well as his desire to develop an increasingly sophisticated computer and to move ahead faster than anyone else could follow. Nevertheless, his son, Henry Babbage, completed a simplified version of the analytical engine's computing unit (the *mill*) in 1888. He gave a successful demonstration of its use in computing tables in 1906.

**SECOND WEEK - DAY TWO**

**USES OF COMPUTER**

Computers play a role in every field of life. They are used in homes, business, educational institutions, research organizations, medical field, government offices, entertainment, etc.

**Training:** Many organizations use computer-based training to train their employees, to save money and improve performance. Video conferencing through computers allows saving of time and travelling costs by being able to connect people in various locations.

**Home:** Computers are used at homes for several purposes like online bill payment, watching movies or shows at home, home tutoring, social media access, playing games, internet access, etc. They provide communication through electronic mail. They help to avail work from home facility for corporate employees. Computers help the student community to avail online educational support.

**Medical Field:** Computers are used in hospitals to maintain a database of patients’ history, diagnosis, X-rays, live monitoring of patients, etc. Surgeons nowadays use robotic surgical devices to perform delicate operations, and conduct surgeries remotely. Virtual reality technologies are also used for training purposes. It also helps to monitor the fetus inside the mother’s womb.

**Entertainment:** Computers help to watch movies online, play games online; act as a virtual entertainer in playing games, listening to music, etc. MIDI instruments greatly help people in the entertainment industry in recording music with artificial instruments. Videos can be fed from computers to full screen televisions. Photo editors are available with fabulous features.

**Industry:** Computers are used to perform several tasks in industries like managing inventory, designing purpose, creating virtual sample products, interior designing, video conferencing, etc. Online marketing has seen a great revolution in its ability to sell various products to inaccessible corners like interior or rural areas. Stock markets have seen phenomenal participation from different levels of people through the use of computers.

**Banking:** In the banking sector, computers are used to store details of customers and conduct transactions, such as withdrawal and deposit of money through ATMs. Banks have reduced manual errors and expenses to a great extent through extensive use of computers.

**THIRD WEEK - DAY THREE**

**COMPUTER STORAGE DEVICE**

Computer data storage devices is a tool used to store digital information. These serve to temporarily or permanently store any data as per the user’s needs. There are **types of Storage Devices** that can hold the data more data than [Primary memory](https://digitalworld839.com/what-is-primary-memory-of-computer-examples/" \t "_blank).

It is transferable, but the speed of accessing data is slower than Primary Memory. Let’s see what the computer storage devices or types of storage devices are.

The storage devices are useful technology, created to save or archive digital information according to the user’s requirements. This data and files are stored in an organized way to access it more easily.

Without computer storage devices in the computer system, laptops and smartphones would not be very helpful. Well, every device needs a storage unit to work. The information or data can be text files, videos, programs, documents, images, and applications.

The processing speed is **slower**than the primary memory.

A computer can work without a secondary memory but not without a primary one.

**Storage Devices of Computer**

1. **USB Drive**

A USB drive is a small, light, ultra-portable storage device compatible with Windows, Mac, and Linux. The **pen drive**, also known as a USB memory device, memory stick, USB flash drive, memory unit, data stick, pen drive, kitchen drive, thumb drive, USB keychain, USB stick, or **a portable data storage unit**.

1. **Hard Disk Drive**

The short form of the hard disk drive is **HDD**. A hard drive is a computer-accessible storage device based on the made of **magnetic recording technology**. They are used in the vast majority to store all types of small or big files or data of computers, storing backup copies of data, like file storage, etc., on our digital computer or Laptop.

1. **Solid State Drive**: SSD stands for “**Solid State Drive**,” which is a computer storage devices bit similar to a hard disk drive. But it has storage capacity more than a hard disk and a more sophisticated device. It neither has a motor nor a spinning disk as a hard disk has. It uses the integrated circuit memory made of **semiconductor technology** like RAM, but it is used to store data permanently.

**4. Memory Card**: A memory card is also known as a **flash memory** card or **SD Card** (Secure Digital Card), is an external storage medium that allows us to save and delete information. We use memory cards as secondary storage for our devices to store data such as **photos, videos, files**, etc.

**5. Optical Devices**: Optical devices are nothing but CD and DVD we were used to watching videos and many more. Both are storage devices of computer are still used to store data.

**6. Floppy Disk**: Floppy Disk is another storage device of a computer. The first floppy was first created in **1969**, this the same year that the Internet was launched.

**7. Magnetic Tape**: [Magnetic tape](https://en.wikipedia.org/wiki/Magnetic_tape_data_storage" \t "_blank) is also a storage device similar to audio cassettes. It is like the **old-time audio case** Magnetic Tape was primarily used to store a large amount of audio data. They were cheap. Even today, it is used to create a data backup.

**FOURTH WEEK DAY FOUR**

**OPERATING SYSTEM**

An **operating system** (**OS**) is [system software](https://en.wikipedia.org/wiki/System_software" \o "System software) that manages [computer hardware](https://en.wikipedia.org/wiki/Computer_hardware" \o "Computer hardware), [software](https://en.wikipedia.org/wiki/Computer_software" \o "Computer software) resources, and provides common [services](https://en.wikipedia.org/wiki/Daemon_(computing)" \o "Daemon (computing)) for [computer programs](https://en.wikipedia.org/wiki/Computer_program" \o "Computer program). [Time-sharing](https://en.wikipedia.org/wiki/Time-sharing" \o "Time-sharing) operating systems [schedule tasks](https://en.wikipedia.org/wiki/Scheduler_(computing)" \o "Scheduler (computing)) for efficient use of the system and may also include accounting software for cost allocation of [processor time](https://en.wikipedia.org/wiki/Scheduling_(computing)" \o "Scheduling (computing)), [mass storage](https://en.wikipedia.org/wiki/Mass_storage" \o "Mass storage), printing, and other resources.

For hardware functions such as [input and output](https://en.wikipedia.org/wiki/Input_and_output" \o "Input and output) and [memory allocation](https://en.wikipedia.org/wiki/Memory_allocation" \o "Memory allocation), the operating system acts as an intermediary between programs and the computer hardware,[[1]](https://en.wikipedia.org/wiki/Operating_system" \l "cite_note-1)[[2]](https://en.wikipedia.org/wiki/Operating_system" \l "cite_note-2) although the application code is usually executed directly by the hardware and frequently makes [system calls](https://en.wikipedia.org/wiki/System_call" \o "System call) to an OS function or is [interrupted](https://en.wikipedia.org/wiki/Interrupt" \o "Interrupt) by it. Operating systems are found on many devices that contain a computer – from cellular phones and video game consoles to [web servers](https://en.wikipedia.org/wiki/Web_server" \o "Web server) and [supercomputers](https://en.wikipedia.org/wiki/Supercomputer" \o "Supercomputer).

**The Five Most Popular Operating Systems**

There are five main types of operating systems. These five OS types are likely what run your phone, computer, or other mobile devices like a tablet. Whether you’re just a normal computer and phone user or someone hoping to get involved in [an IT career](https://www.wgu.edu/online-it-degrees/cloud-computing-bachelors-program.html), knowledge of applications and systems types will help you maintain security and user access, perform routine operations, and much more.

Microsoft Windows.

The Windows OS has been around since the 1980s and has had several versions and updates (including Windows 95, Windows Vista, Windows 7/8/10, etc.) [Microsoft Windows](https://www.microsoft.com/en-us/windows" \t "_blank) is one of the popular operating system types and is preloaded on most new PC hardware. With each new Windows update or release, Microsoft continues to work on improving their users’ experience, hardware, and software, making Windows more accessible and easier to use.

Microsoft Windows contains a control panel, a desktop and desktop assistant, disk cleanup, event viewer, and more. Many users prefer Microsoft Windows because they say it’s compatible with many other kinds of software. Many kinds of computer programs run best on Microsoft Windows because they’re developed by Microsoft.

**FIFTH WEEK - DAY FIVE**

**PARTS OF COMPUTER**

A computer is any machine that can be programmed to carry out a set of [algorithms](https://www.idtech.com/blog/algorithms-for-kids) and arithmetic instructions.

Of course, the computers we think of today are so much more than that—and I’m talking beyond just being machines used to play games and watch videos of cats on the internet!

**5 parts of a computer**

Whether it's a gaming system or a home PC, the five main components that make up a typical, present-day computer include:

1. A motherboard
2. A Central Processing Unit (CPU)
3. A Graphics Processing Unit (GPU), also known as a video card
4. Random Access Memory (RAM), also known as volatile memory
5. Storage: Solid State Drive (SSD) or Hard Disk Drive (HDD)

In terms of construction, each of these main components are attached to the motherboard and then put into a protective case—resembling the clean, polished look most of us are accustomed to seeing.

Sure, most computers have their own distinct design - and different brands of hardware installed - but the components listed above are standard across all computers.

***Important***: A quick note before we dive into the details—I’m listing and talking about the different components of a computer. This is by no means intended to be an invitation to disassemble your computer, nor is it a set of instructions to do so. Without the proper knowledge, you can severely damage your computer, and importantly, doing so is unsafe.

**1. Motherboard:** All components of a computer communicate through a circuit board called the motherboard, as was mentioned above.

What it does: Think of the motherboard as the glue that holds everything else together. (The Raspberry Pi, like the one featured in our summer course for kids, [Build and Code Your Own Take-Home Laptop](https://www.idtech.com/courses/build-and-code-a-laptop), is a motherboard.)

The motherboard’s video card and Central Processing Unit are contained in an integrated (built-in) chipset, shown in the picture below: This is where input/output devices such as a keyboard, mouse, and speakers get plugged in.

**2. Central Processing Unit (CPU):** What it is: The CPU is often called the "brain" of a computer, thanks to its direct plug connection to the motherboard, and communication with all of the computer’s other components.What it does: Whenever you write a line of code (in [Python](https://www.idtech.com/courses/intro-to-coding-for-machine-learning), [Java](https://www.idtech.com/blog/java-for-kids-a-guide-for-parents-of-new-coders), [C++](https://www.idtech.com/courses/code-apps-with-c), or any other [programming language](https://www.idtech.com/blog/choose-best-programming-language-your-child)), it's broken down into assembly language—which is a language that the processor can understand. It fetches, decodes, and executes these instructions.

**3. Graphics Processing Unit (GPU):** What it is: It's not uncommon to hear gamers obsess over the next new graphics card, as these graphic cards make it possible for computers to generate high-end visuals like those found in the many [different types of video games](https://www.idtech.com/blog/different-types-of-video-game-genres).

In addition to video games, though, good graphics cards also come in handy for those who rely on images in order to execute their craft, like 3D modelers using resource-intensive software.

What it does: Graphics cards often communicate directly with the display monitor, meaning a $1,000 graphics card won't be of much use if there isn't a high-end monitor connected to it.

**4. Random Access Memory (RAM).** What it is: RAM, also known as volatile memory, stores data regarding frequently accessed programs and processes. (It's called volatile memory because it gets erased every time the computer restarts.)

What it does: RAM helps programs and games start up and close quickly.

**5. Storage:** What it is: All computers need somewhere to store their data. Modern computers either use a Hard Disk Drive (HDD) or Solid State Drive (SSD).

What it does: HDDs are made of an actual disk onto which data is stored. The disk is read by a mechanical arm. (HDDs are cheaper than SSDs, but are slowly becoming more and more obsolete.) SSDs (think SIM cards) have no moving parts and are faster than a hard drive, because no time is spent waiting for a mechanical arm to find data on a physical location on the disk.

**SECOND WEEK - DAY ONE**

**MARVIS BEACON**

Mavis Beacon Teaches Typing is the best-selling typing tutor of all time. Mavis Beacon has taught millions to type for more than twenty-five years. What’s the secret of her success? Mavis Beacon offers dynamic personal instruction. She places you in lessons based on your current skill level and  
then adjusts your path as your typing improves. So you are always being challenged to do your best, spending time on the keys that need the most work rather than the ones you already know well. Mavis Beacon Teaches Typing was created more than twenty years ago, and was first published in 1987. Software MacKiev’s involvement goes back to 1998 when our company developed version 9  
for the Macintosh® — both the US and UK editions. Then, a decade later, we had the opportunity to get involved with Mavis Beacon again — this time as the developer and publisher of a new generation of Mavis Beacon software for Mac OS® X. Now we are very pleased and proud to be bringing the kind  
of quality you’ve come to expect from the creative labs of Software MacKiev to this edition — Mavis Beacon Teaches Typing for Windows

**THIRD WEEK – DAY ONE**

**LECTURES ON MICROSOFT WORD**