

A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light green color. They are positioned diagonally, with the blue one in front of the green one.

# How do personal computers work?

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# What are P.C.s

- PC stands for Personal Computer
- A PC is made up of a many components that work together to create one large system.
- Your Macbook is a computer, your phone is a computer, and this tv is a computer.
- A pc is a special type of computer it is a large box like object
  - It is connected to a screen it does not have on built in
  - It needs speakers and a microphone as well



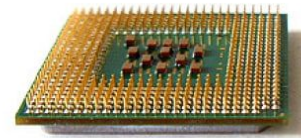
# Motherboard

- Every part is connected to the motherboard
  - All wires lead to motherboard
- The most integral part of a PC.
- The type of CPU that you get will affect the motherboard that you can get.
  - Certain motherboards will not be compatible with certain processors.



# CPU(Central Processing Unit)

- Central processing units allow the computer to interact and to run with other programs while telling the computer what to do
- There are 2 main brands of CPUs.
  - Intel, and AMD Ryzen
- The difference is the pins on the bottom of the processor that dictate the type of motherboard you would get.
- Ryzen cpu are better at single thread processing while intel cpus are better at multi thread processing
- Apple manufactures their own processors with the M series chips for iPhones.



(pin)

**AMD Processor**



(no pin)

**Intel Processor**

# GPU(Graphics Processing Unit)

- Graphics Processing Units are what dictates the screen rendering capability
- GPUs help make the graphics of a game, video, picture, and almost anything on screen look better
- A computer with a low end GPU will not be able to produce graphics as well as a high end GPU.
- Some CPUs have integrated graphics, but they are not as good as a separate GPU.



# Storage/RAM



- Every computer has RAM or Random Access Memory, as well as dedicated storage in the form of an SSD(Solid State Drive), M.2 SSD or HDD(Hard Drive).\ul>  - SSD, M.2 SSD and HDD are all the same type of storage but in different types of casing and speeds
  - The M.2 SSD is the fastest and smallest out of the 3 form factors.
- The storage is where everything on the PC is stores, but the RAM, a different type of storage, is responsible for running different programs at the same time, like short term memory
  - A computer with little RAM would not be able to run Chrome with multiple tabs with another application, while a computer with a lot of RAM could easily.



# PSU (Power supply unit)

- A Power supply unit is what powers the whole system
- PSU come in different wattages - 400w 800w etc
  - I system with better and more powerful parts require a stronger PSU with more watts.



# Cooling

- The CPU, GPU, and Power Supply all are cooled.
- There are multiple options for how you can cool your PC:
  - There is air cooling - the most common type.
  - There is also water cooling - where you use distilled water to cool your PC.
- Both forms require some type of maintenance.
  - Water changes for water cooling.
  - Dusting the inside of the PC is required for air cooled rigs.







# OS (operating system)

- The operating system is the interface that the PC runs on
- Windows, Mac OS, and iOS are three popular examples of operating systems



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