Fetch

- Takes program in main memory, or RAM, and stores it into its own temporary memory areas, called registers.
- To do this, the cpu places the address in memory of the next instruction to be fetched on to the address bus.
- Once an instruction is fetched and goes to the next step in the cpu cycle, the address bus moves to the next instruction
- The encoded instruction moves from RAM to the registers by travelling along the data bus
- You can imagine it as a boat attendant at a lake calling customers in. The boat number is the boat's address, and it's passengers are the instruction. Moreover, the boats are parked at the pier which is like the internal register of the cpu

Decode
CPU has circuitry called the instruction decoder

- Instruction is converted into signals for the other parts of the CPU to follow
- A group of bits indicate which operation is to be executed
- Remaining groups provide additional information such as the operands
- Usually consists of a single action or multiple actions
- Various parts of CPU are connected to perform the operation
- Results may be written to the CPU's integrated register or to the RAM

execute

- Usually consists of a single action or multiple actions
- Various parts of CPU are connected to perform the operation
- Results may be written to the CPU’s integrated register or to the RAM

CPU Notes

Add what you’re gonna say here if you want ig

What are CPUs?
The abbreviation “CPU” stands for central processing unit. It looks like a square chip, like the one you see here and it’s attached to the motherboard of the computer. It is the most important processing unit of the computer, so you can consider it as the brain of the computer. This is the part of the computer that performs calculations, actions, and runs programs.

CPU components
The two typical components of a CPU include the control unit abbreviated as CU, and the arithmetic/logic unit or ALU.

The control unit extracts instructions from memory and decodes and executes them. It sends the necessary signals to the ALU to perform the operation needed. In general, it directs the computer system on what to do.

The other component is the Arithmetic Logic Unit, or ALU. The ALU performs arithmetic and logical operations for the control unit.

The memory is closely associated with the even though it is not attached to it. It acts like a temporary storage for information that the control unit can use when it needs to.