CPUs Continued

1 min

Now that we have a general understanding of the

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CPU

, let's dive a little deeper.

Control Unit

The Control Unit is the component receiving instructions from the software and running the show. Its primary job is making sure that data is sent to the right component, at the right time, and arrives with integrity.

Part of this job is keeping all the hardware working on the same schedule. It does this with a clock, which sends out a regular electrical signal to all components at the same time to coordinate activities.

ALU

The ALU is the fundamental building block of the CPU, the brains of the entire computer. Nearly all functional processing occurs in this chip. As the name implies, the ALU's functions can be divided into two primary areas:

- Arithmetic operations that deal with calculating data (e.g. 5 * 4 = 20)
- Logic operations that deal with comparisons and

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conditionals

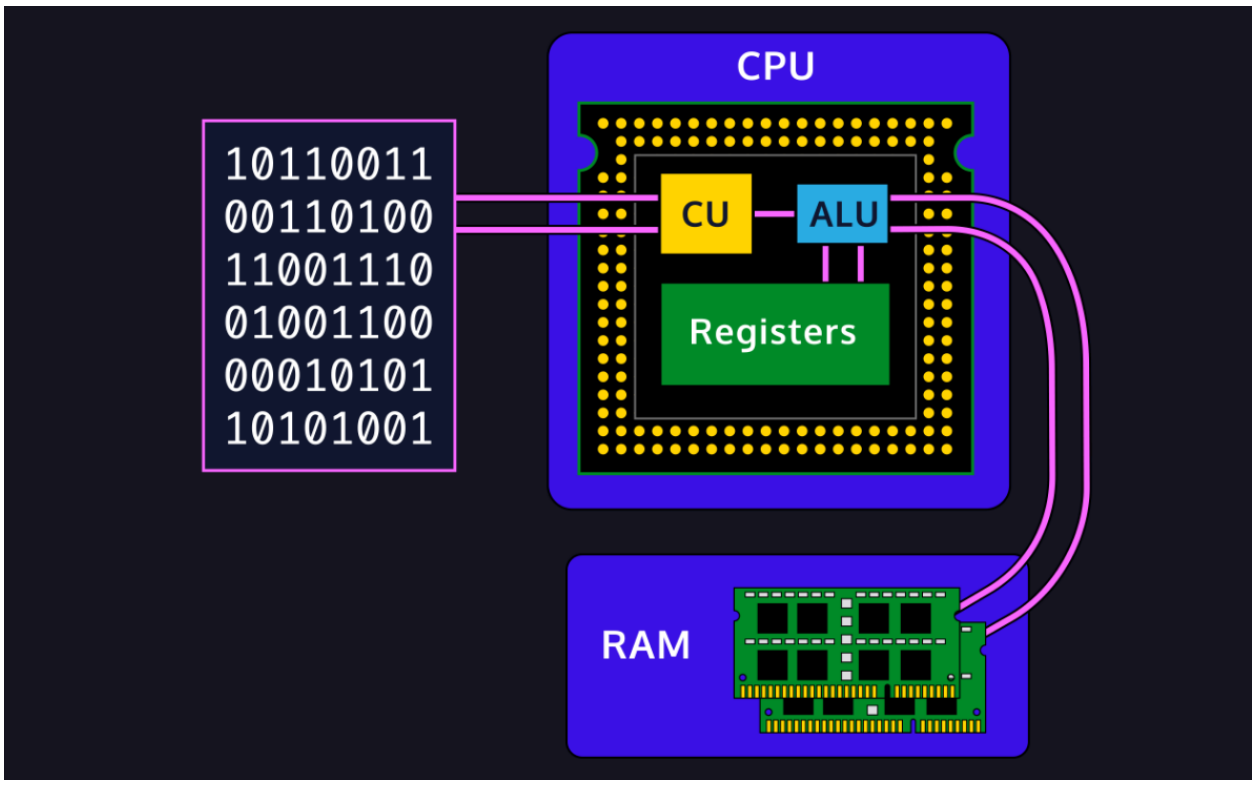
(e.g. 25 > 10)

Registers

Registers are small pieces of memory right on the CPU. They are fixed in number and defined in the Instruction Set Architecture. There are typically 8, 16, 32, or 64 registers depending on the architecture and are also fixed in size based on the size of the number it can hold. They provide the CPU with a place to store and access values that are crucial to the immediate calculations the ALU is processing.

Instructions

Click Next when you're ready to go to the next exercise.


CPU
10110011
00110100
11001110
01001100
00010101
10101001
CU
ALU
Registers
RAM