Additional Computer Hardware

3 min

The

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CPU

is just a single component of the computer's hardware, other important components of hardware include Random Access Memory (RAM), buses (high-speed wires), as well as hard disks and other non-volatile memory.

Random Access Memory

Random Access Memory, or

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RAM

, is additional high-speed memory that a computer uses to store and access information on a short-term basis. In general, a computer's performance can be directly correlated to the amount of RAM it has available to use. RAM is considered primary volatile memory, which means it loses whatever is stored on it as soon as power is disconnected.

Buses

A *bus* is an engineering term for a job-specific high-speed wire. These wires are often grouped together in bundles and will transfer electrical signals either in parallel or in serial — that is, many signals at once or one pulse at a time. Buses can be grouped into three functions: data buses, address buses, and control buses.

Data buses carry data back and forth between the

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processor

and other components. Data buses are bidirectional, which means that they transfer data both to and from other locations.

Address buses carry a specific address in memory and are unidirectional. We can visualize all of our memory like a village with each house representing a package of data. Every house/data has an address. When our computer tells a program or component what data to use, it sends the address and then the component knows where to find the data when it needs it.

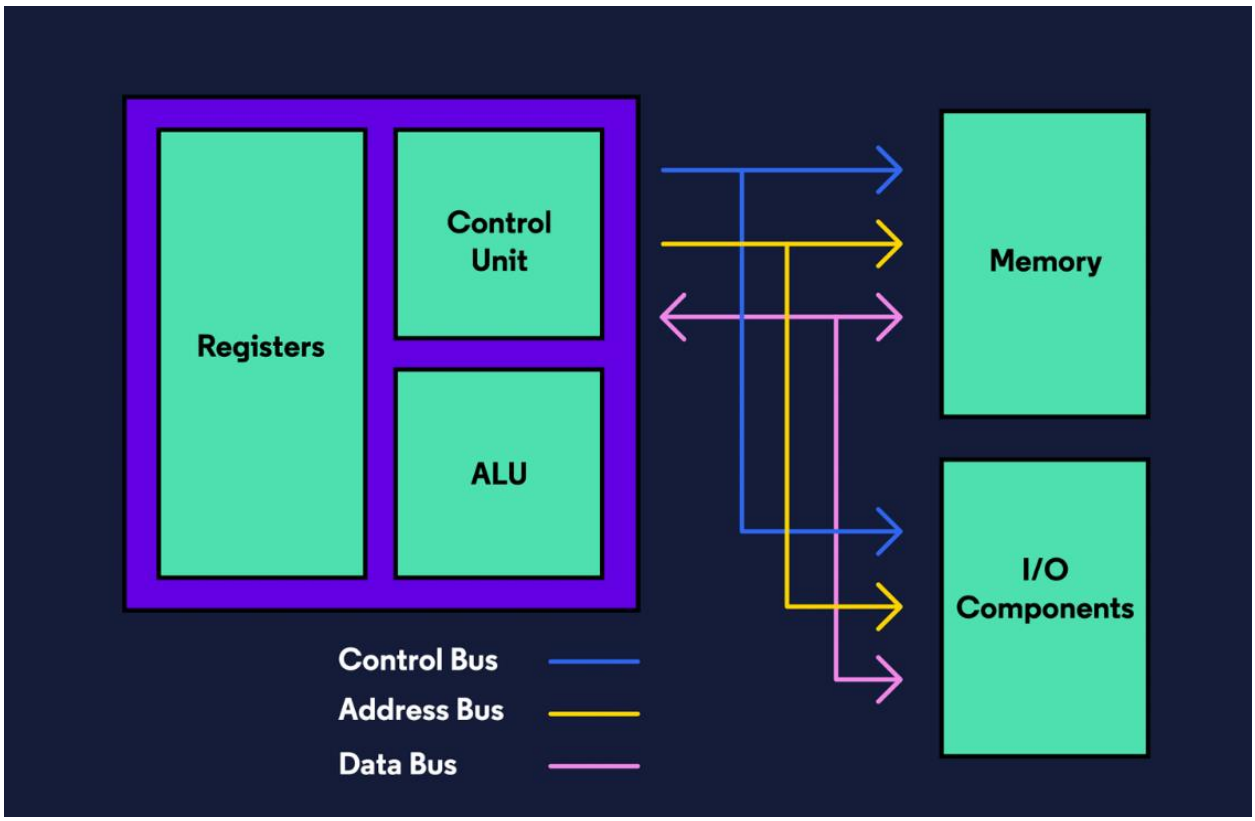
Control buses are also unidirectional and are responsible for carrying the control signals of the CU to other components as well as the clock signals for synchronization.

Hard Disks

Hard disks, or hard drives, are responsible for the long-term, or secondary storage of data and programs. This is an example of non-volatile memory, meaning that it will retain its information when we shut down our computer.

Instructions

1. Follow the data in the image to the right. When you're finished, click Next to continue.


Registers
Control Unit
ALU
Memory
I/O Components
Control Bus
Address Bus
Data Bus