

ORAKPO MIRABEL

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FUNCTIONS OF A CPU

The CPU processes instructions it receives in the process of decoding data. In processing this data, the CPU performs four basic steps:

1. **Fetch:** Each instruction is stored in memory and has its own address. The processor takes this address number from the program counter, which is responsible for tracking which instructions the CPU should execute next.
2. **Decode:** All programs to be executed are translated to into Assembly instructions. Assembly code must be decoded into binary instructions, which are understandable to your CPU. This step is called decoding.
3. **Execute:** While executing instructions the CPU can do one of three things: Do calculations with its ALU, move data from one memory location to another, or jump to a different address.
4. **Store:** The CPU must give feedback after executing an instruction, and the output data is written to the memory.

The number of operations a CPU can perform depends upon its speed, which is measured in Hertz. One hertz is the speed during which one operation is performed in one second. Typically a computer's speed is measured in gigahertz. 1 GHz is the speed it takes the CPU to perform one million simple tasks. A "simple task" includes the smallest steps a processor can perform.

Usually, the processor understands and performs assembly instructions that last four cycles. The faster your CPU, the more instructions it can perform in one second, but do not let this number fool you. The speed of the CPU is not the only metric that influences your computer's performance. There are many other factors, such as CPU architecture, cache size, and bus speed that must be evaluated to get independent results. Do not simply chase the highest speed when buying a processor. Evaluate all of the factors