



Computer Software Basics

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What is a computer?



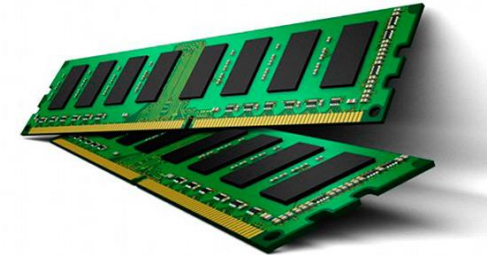
Elements of a computer



Input



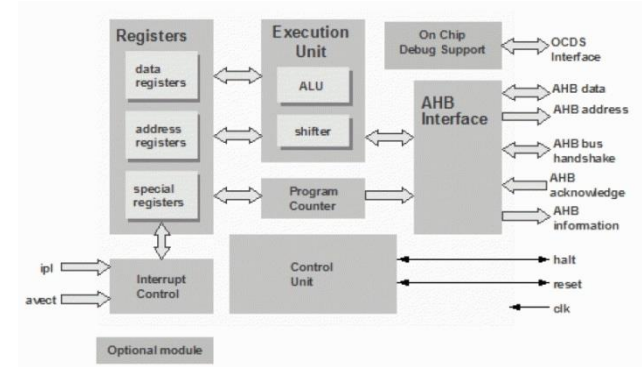
Output



Memory

x + - ÷ &
OR ≠ = < >

Ability to do math and logic



Ability to execute sequential and branching instructions

Is it a computer?

Is it a computer?



Laptop PC

Is it a computer?



Smartphones

Is it a computer?



Flat screen TV

Is it a computer?



Analog
wall clock

Is it a computer?



Toyota RAV 4

Is it a computer?



Smartwatch

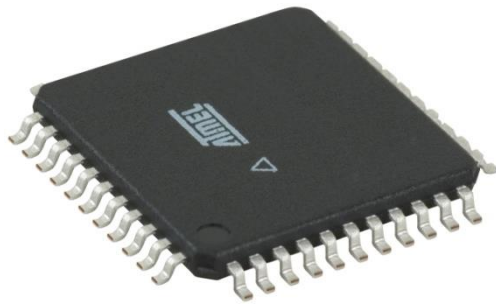
A general rule:

Software runs on computers

Soft-ware *n*

The instructions that direct a computer.

Software instruction types



Data handling and
memory instructions



Arithmetic and logic
instructions

Go to
If-then-else
Loop forever

Conditional and unconditional
branching instructions

Why languages?



- High-level languages help humans write software that other humans can understand.
- Software written in high-level languages can be converted to machine code that computers can run.

Converting source code to object code

