

Computer Organization And Assembly Language

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Define RISC & CISC:

- RISC (Reduced Instruction Set Computing): Uses a small, highly optimized set of instructions to execute operations efficiently.
- CISC (complex Instruction Set Computing): Uses a large set of complex instructions to accomplish tasks in fewer lines of assembly code.

Historical Background:

- CISC evolved in the early days

of computing to optimize memory usage and simplify programming.

- RISC emerged in the 1980s to improve performance by executing simpler instructions faster and efficiently.

Advantages & Disadvantages of RISC:

• Advantages :

Faster, execution,
simpler hardware design, lower
power consumption.

• Disadvantages:

Requires more
instructions for complex tasks, can
increase program size.

Advantages & Disadvantages of CISC:

- Advantages: Fewer instructions per program, better suited for memory-constrained environments.
- Disadvantages: More complex hardware, higher power consumption, slower execution speed.

Usage & Examples:

- RISC: Used in smartphones, tablets, and embedded system.

Examples: ARM processors, Apple M-series chips.

- CISC: Used in desktops, laptops, and servers.

Examples: Intel x86, AMD Ryzen processors.
