**RISC (Reduced Instruction Set Computer) and CISC (Complex Instruction Set Computer) architectures:**

RISC vs. CISC Architecture:

1. Question: Which architecture has a large set of complex and specialized instructions?

a) RISC

b) CISC

Answer: b) CISC

2. Question: Which architecture follows the principle of "Simplicity favors regularity"?

a) RISC

b) CISC

Answer: a) RISC

3. Question: In RISC architecture, the instruction format is typically of what size?

a) 8 bits

b) 16 bits

c) 32 bits

d) 64 bits

Answer: c) 32 bits

4. Question: Which architecture uses microprogramming for instruction decoding and execution?

a) RISC

b) CISC

Answer: b) CISC

5. Question: In RISC architecture, where is the burden of complex instruction placed?

a) Hardware

b) Software

Answer: a) Hardware

6. Question: Which architecture aims to reduce the number of cycles per instruction?

a) RISC

b) CISC

Answer: a) RISC

7. Question: Which architecture focuses on optimizing performance through pipelining and superscalar execution?

a) RISC

b) CISC

Answer: b) CISC

8. Question: In CISC architecture, the instruction set has both variable-length and fixed-length formats.

a) True

b) False

Answer: a) True

9. Question: Which architecture is more suitable for memory-constrained environments?

a) RISC

b) CISC

Answer: a) RISC

10. Question: In RISC architecture, which component handles complex instructions?

a) Control Unit

b) Arithmetic Logic Unit (ALU)

c) Memory Unit

d) Microcontroller

Answer: b) Arithmetic Logic Unit (ALU)

11. Question: Which architecture often requires more memory space for storing complex instructions?

a) RISC

b) CISC

Answer: b) CISC

12. Question: RISC instructions are typically of fixed length to simplify instruction decoding.

a) True

b) False

Answer: a) True

13. Question: Which architecture typically uses load-store architecture for memory access?

a) RISC

b) CISC

Answer: a) RISC

14. Question: In CISC architecture, what is the primary focus regarding instructions?

a) Minimizing execution time

b) Minimizing instruction count

c) Maximizing performance per instruction

d) Maximizing performance per cycle

Answer: c) Maximizing performance per instruction

15. Question: Which architecture is more suitable for general-purpose computing tasks?

a) RISC

b) CISC

Answer: b) CISC

16. Question: Which architecture is often associated with a simpler and more streamlined instruction pipeline?

a) RISC

b) CISC

Answer: a) RISC

17. Question: In CISC architecture, an instruction may have multiple memory access operations.

a) True

b) False

Answer: a) True

18. Question: Which architecture typically employs hardwired control units?

a) RISC

b) CISC

Answer: b) CISC

19. Question: In RISC architecture, the majority of instructions can be executed in a single clock cycle.

a) True

b) False

Answer: a) True

20. Question: Which architecture is known for providing a large variety of addressing modes?

a) RISC

b) CISC

Answer: b) CISC

21. Question: Which architecture is more efficient in terms of power consumption?

a) RISC

b) CISC

Answer: a) RISC

22. Question: In RISC architecture, where is the focus of performance improvement?

a) Reducing instruction complexity

b) Maximizing pipelining efficiency

Answer: b) Maximizing pipelining efficiency

23. Question: Which architecture is often associated with a smaller code size?

a) RISC

b) CISC

Answer: a) RISC

24. Question: In CISC architecture, what is the primary focus regarding instructions?

a) Minimizing execution time

b) Minimizing instruction count

c) Maximizing performance per instruction

d) Maximizing performance per cycle

Answer: c) Maximizing performance per instruction

25. Question: In RISC architecture, what is the typical size of the instruction cache?

a) Larger than CISC architectures

b) Smaller than CISC architectures

Answer:

b) Smaller than CISC architectures

26. Question: Which architecture is more suitable for real-time systems and embedded applications?

a) RISC

b) CISC

Answer: a) RISC

27. Question: CISC architecture typically includes complex instructions that can perform multiple operations.

a) True

b) False

Answer: a) True

28. Question: Which architecture is more suitable for high-performance computing tasks?

a) RISC

b) CISC

Answer: b) CISC

29. Question: RISC architecture often uses an instruction cache to reduce memory access time.

a) True

b) False

Answer: a) True

30. Question: Which architecture is generally associated with a simpler instruction set?

a) RISC

b) CISC

Answer: a) RISC

31. Question: In CISC architecture, complex instructions can be executed in a single clock cycle.

a) True

b) False

Answer: b) False

32. Question: Which architecture typically uses fixed-length instruction formats?

a) RISC

b) CISC

Answer: a) RISC

33. Question: CISC architecture typically uses hardwired control units, making it easier to implement in hardware.

a) True

b) False

Answer: a) True

34. Question: In RISC architecture, which component handles complex instructions?

a) Control Unit

b) Arithmetic Logic Unit (ALU)

c) Memory Unit

d) Microcontroller

Answer: b) Arithmetic Logic Unit (ALU)

35. Question: Which architecture is more suitable for memory-constrained environments?

a) RISC

b) CISC

Answer: a) RISC

36. Question: In CISC architecture, what is the primary focus regarding instructions?

a) Minimizing execution time

b) Minimizing instruction count

c) Maximizing performance per instruction

d) Maximizing performance per cycle

Answer: c) Maximizing performance per instruction

37. Question: In RISC architecture, where is the burden of complex instruction placed?

a) Hardware

b) Software

Answer: a) Hardware

38. Question: Which architecture focuses on optimizing performance through pipelining and superscalar execution?

a) RISC

b) CISC

Answer: b) CISC

39. Question: In CISC architecture, the instruction set has both variable-length and fixed-length formats.

a) True

b) False

Answer: a) True

40. Question: Which architecture typically uses load-store architecture for memory access?

a) RISC

b) CISC

Answer: a) RISC

41. Question: What is the primary advantage of the CISC architecture?

a) Reduced power consumption

b) Simplified instruction pipeline

c) Smaller code size

d) Rich and complex instruction set

Answer: d) Rich and complex instruction set

42. Question: What is the primary advantage of the RISC architecture?

a) Support for high-level languages

b) Simplicity and efficiency in instruction execution

c) Faster clock speeds

d) Larger instruction cache

Answer: b) Simplicity and efficiency in instruction execution

43. Question: Which architecture typically has a larger number of addressing modes?

a) RISC

b) CISC

Answer: b) CISC

44. Question: In RISC architecture, what is the role of the compiler?

a) Translating complex instructions into simpler ones

b) Managing the instruction pipeline

c) Microprogramming the control unit

d) Handling memory access operations

Answer: a) Translating complex instructions into simpler ones

45. Question: Which architecture is more suited for high-level language compilation and optimization?

a) RISC

b) CISC

Answer: a) RISC

46. Question: Which architecture tends to have a smaller transistor count per instruction?

a) RISC

b) CISC

Answer: a) RISC

47. Question: Which architecture is often associated with a simpler and more streamlined instruction pipeline?

a) RISC

b) CISC

Answer: a) RISC

48. Question: In CISC architecture, an instruction may have multiple memory access operations.

a) True

b) False

Answer: a) True

49. Question: Which architecture is more efficient in terms of power consumption?

a) RISC

b) CISC

Answer: a) RISC

50. Question: In RISC architecture, where is the focus of performance improvement?

a) Reducing instruction complexity

b) Maximizing pipelining efficiency

Answer: b) Maximizing pipelining efficiency