Differentiate: a) Maskable and non-maskable interrupt b) RISC and CISC

Maskable and non-maskable interrupt

Maskable and non-maskable interrupt are two types of interrupts that a computer processor can receive.

Maskable interrupts can be disabled or enabled by the programmer through the use of a mask or flag. When a maskable interrupt occurs, the processor checks the interrupt mask to determine if the interrupt should be serviced or ignored. Examples of maskable interrupts include I/O interrupts and software interrupts.

Non-maskable interrupts, on the other hand, cannot be disabled or ignored by the programmer. They are typically reserved for critical system events such as power failure or hardware errors, which require immediate attention from the processor. When a non-maskable interrupt occurs, the processor interrupts the current operation and immediately services the interrupt.

RISC and CISC

RISC and CISC are two different computer processor architectures.

RISC stands for Reduced Instruction Set Computing. In a RISC architecture, the instruction set is simplified, and the processor executes a large number of simple instructions. RISC architectures typically have a small number of general-purpose registers and rely on software optimization to achieve high performance. Examples of RISC architectures include ARM and MIPS.

CISC stands for Complex Instruction Set Computing. In a CISC architecture, the instruction set is more complex, and the processor can execute complex instructions that perform multiple Differentiate: a) Maskable and non-maskable interrupt b) RISC and CISC

operations in a single instruction. CISC architectures typically have a larger number of specialized registers and rely on hardware optimization to achieve high performance. Examples of CISC architectures include x86 and x64.

In general, RISC architectures are considered to be more efficient and easier to program, while CISC architectures are more flexible and better suited for complex applications.

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Differentiate: a) Maskable and non-maskable interrupt b) RISC and CISC

- 20. Write a short note on Array processors ?
- 21. Write a short note on LRU algorithm ?
- 22. What is the format of Micro Instruction in Computer Architecture explain ?
- 23. What is the layout of pipelined instruction in Computer Architecture ?
- 24. Explain the following interfaces in Detail:PCI Bus, SCSI Bus, USB Bus
- 25. What is Memory Organization ? Discuss different types of Memory Organization in Computer System.
- 26. Computer Organization Q and A
- 27. Write short note on improving cache performance methods in detail ?
- 28. What is Multiprocessor ? Explain inter process communication in detail ?
- 29. Briefly explain the concept of pipelining in detail ?
- 30. Discuss the following in detail: RISC architecture, Vector processing ?
- 31. Define the instruction format ? Explain I/O System in detail ?
- 32. Explain the design of arithmetic and logic unit by taking on example ?
- 33. Explain how addition and subtraction are performed in fixed point number ?
- 34. Explain different modes of data transfer between the central computer and I/O device ?
- 35. Differentiate between Serial and parallel data transfer ?
- 36. Explain signed magnitude, signed I's complement and signed 2's complement representation of numbers. Find the range of numbers in all three representations for 8 bit register.
- 37. If cache access time is IOOns, main memory access time is 1000 ns and the hit ratio is0.9. Find the average access time and also define hit ratio.
- 38. Explain hardwired microprogrammed control unit ? What is address sequencer circuit ?
- 39. Explain how a stack organized computer executes instructions? What is Stack?
- 40. Draw and explain the memory hierarchy in a digital computer. What are advantages of cache memory over main memory?

- 41. What is Associative memory? Explain the concept of address space and memory space in Virtual memory.
- 42. What is Paging? Explain how paging can be implemented in CPU to access virtual memory.
- 43. Explain SIMD array processor along with its architectural diagram ?
- 44. Write short notes on
- 45. Draw the functional and structural views of a computer system and explain in detail ?
- 46. Explain general register organization.
- 47. Compare and contrast DMA and I/O processors ?
- 48. Define the following: a) Flynn's taxonomy b) Replacement algorithm
- 49. Explain the various pipeline vector processing methods ?
- 50. Describe the language features for parallelism ?
- 51. What are different addressing modes? Explain them.
- 52. Explain any page replacement algorithm with the help of example ?
- 53. What is mapping? Name all the types of cache mapping and explain anyone in detail.
- 54. Explain arithmetic pipeline ?
- 55. Write short notes on, a) SIMD, b) Matrix multiplication c) Instruction format
- 56. Computer Organization Previous Years Solved Questions
- 57. Booths algorithm to muliyiply +5 and -15