

Explain how addition and subtraction are performed in fixed point number ?

To perform addition and subtraction in fixed-point arithmetic, you first align the decimal points of the two numbers. Then you add or subtract the two numbers digit by digit, starting from the rightmost digit and moving left. If there is a carry from one digit to the next, you add it to the next digit. If there is a borrow from one digit to the next in subtraction, you borrow from the next digit.

For example, consider the addition of two fixed-point numbers with three digits after the decimal point:

$$123.456 + 789.012$$

To add these numbers, you first align the decimal points:

$$\begin{array}{r} 123.456 \\ 789.012 \end{array}$$

Then you add the two numbers digit by digit:

$$\begin{array}{r} 123.456 \\ 789.012 \\ \hline 912.468 \end{array}$$

So the sum of these two numbers in fixed-point arithmetic is 912.468.

Explain how addition and subtraction are performed in fixed point number ?

Subtraction is performed in a similar way.

For example, consider the subtraction of two fixed-point numbers with three digits after the decimal point:

$$789.012 - 123.456$$

To subtract these numbers, you first align the decimal points:

$$\begin{array}{r} 789.012 \\ 123.456 \end{array}$$

Then you subtract the two numbers digit by digit:

$$\begin{array}{r} 789.012 \\ 123.456 \\ \hline 665.556 \end{array}$$

So the difference between these two numbers in fixed-point arithmetic is 665.556.

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19. Write a short note on design of arithmetic unit ?
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.
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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 ?

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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 different modes of data transfer between the central computer and I/O device ?
34. Differentiate between Serial and parallel data transfer ?
35. Explain signed magnitude, signed 1's complement and signed 2's complement representation of numbers. Find the range of numbers in all three representations for 8 bit register.
36. If cache access time is 100ns, main memory access time is 1000 ns and the hit ratio is 0.9. Find the average access time and also define hit ratio.
37. Explain hardwired microprogrammed control unit ? What is address sequencer circuit ?
38. Explain how a stack organized computer executes instructions? What is Stack?
39. Draw and explain the memory hierarchy in a digital computer. What are advantages of cache memory over main memory?
40. What is Associative memory? Explain the concept of address space and memory space in Virtual memory.
41. What is Paging? Explain how paging can be implemented in CPU to access virtual memory.
42. Explain SIMD array processor along with its architectural diagram ?
43. Write short notes on
44. Draw the functional and structural views of a computer system and explain in detail ?
45. Explain general register organization.
46. Compare and contrast DMA and I/O processors ?
47. Define the following: a) Flynn's taxonomy b) Replacement algorithm
48. Explain the various pipeline vector processing methods ?
49. Describe the language features for parallelism ?

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50. What are different addressing modes? Explain them.
51. Explain any page replacement algorithm with the help of example ?
52. What is mapping? Name all the types of cache mapping and explain anyone in detail.
53. Explain arithmetic pipeline ?
54. Write short notes on, a) SIMD, b) Matrix multiplication c) Instruction format
55. Differentiate: a) Maskable and non-maskable interrupt b) RISC and CISC
56. Computer Organization Previous Years Solved Questions
57. Booths algorithm to muliyiply +5 and -15