Mindluster Platform

About the course Virtual memory In computer organization

Virtual memory In computer organization course, in this course we will learn about Virtual Memory in computer organization, a fundamental concept that enhances the efficiency and capability of modern computer systems. Virtual memory is a technique that allows the execution of processes that may not be completely in the physical memory (RAM). This is achieved by using disk space as an extension of RAM, creating an illusion of a larger memory space. We will explore how virtual memory divides memory into pages, the role of page tables in mapping virtual addresses to physical addresses, and how the operating system manages page swapping between RAM and disk storage. The course will delve into concepts like page faults, page replacement algorithms (such as FIFO, LRU, and Optimal), and the impact of virtual memory on system performance. Additionally, we will examine the benefits of virtual memory, including increased memory capacity, improved multitasking, and efficient memory management, as well as the potential challenges like increased latency and complexity in managing memory. By the end of this course, you'll have a comprehensive understanding of how virtual memory works, its significance in computer systems, and practical knowledge of managing and optimizing virtual memory in various operating environments. This course is essential for anyone interested in computer architecture, operating systems, or system performance optimization. Join us to master the intricacies of virtual memory and its pivotal role in modern computing.

Computer Science Category's Courses

Course Lesson(64)

Lesson 1 :
Register Transfer Microoperations Register Transfer Language Computer Organization Architecture

Lesson 2 :
Bus and Memory Transfer Common Bus System For 4 registers Computer Organization Architecture

Lesson 3 :
Three State Bus Buffer Tri State Buffer Computer Organization Architecture Common Bus System

Lesson 4 :
Arithmetic Microoperations 4 bit Binary Adder Subtractor Incrementer Arithmetic Circuit

Lesson 5 :
Logic Microoperations Applications Hardware Implementation Computer Organization Architecture

Lesson 6 :
Shift Microoperations Hardware Implementation Logical Circular Arithmetic shifter rotate

Lesson 7 :
Arithmetic Logic Shift Unit ALU One Stage Of Arithmetic Logic Shift Unit Computer Organization

Lesson 8 :
Instruction Codes Instruction Format Direct and Indirect Address Computer Organization CO

Lesson 9 : **Common Bus System Computer Registers Computer Organization Architecture CO**

Lesson 10 :
Computer Instructions Memory Reference Register Reference Input Output Computer Organization

Lesson 11 : **Timing and Control Design Of Hardwired Control Unit Computer Organization**

Lesson 12 : **Memory Reference Instructions Computer Organization**

Lesson 13 : **Register Reference Instructions Computer Organization**

Lesson 14 : **Input Output Instructions Computer Organization**

Lesson 15 :
Instruction Cycle In Computer Organization Architecture Flowchart Register Transfer Fetch phase

Lesson 16 : **Interrupt Cycle in Computer Organization Flowchart Computer Architecture**

Lesson 17 :
Design of Basic Computer In Computer Organization Architecture Complete Computer Description

Lesson 18 : **Design of Accumulator Logic in Computer Organization Architecture**

Lesson 19 :
Control Memory Microprogrammed Control Organization Computer Organization Architecture Unit

Lesson 20 : **Address Sequencing Microprogram Sequencer Computer Organization Architecture**

Lesson 21 :
Micro Program Example in Computer Organization Architecture Example Micro Programmed Control

Lesson 22 : **Design of Control Unit Microprogrammed Control Computer Organization Architecture**

Lesson 23 :
Stack Organization In Computer Organization Computer Architecture Register Stack Memory Stack

Lesson 24 :
Instruction Formats In Computer Organization Architecture Three Address Instructions Two One Zero

Lesson 25 :
Addressing Modes In Computer Organization Computer Architecture Types Of Addressing Modes

Lesson 26 : **Data Transfer Instructions in Computer Organization Computer Architecture**

Lesson 27 :
Data Manipulation Instructions In Computer Organization Architecture Arithmetic Logical Shift

Lesson 28 : **Program Control Instructions In Computer Organization Computer Architecture**

Lesson 29 :
RISC CISC Computer Organization Architecture Overlapped Register Windows Reduced Instruc

Lesson 30 :
Addition and Subtraction with Signed Magnitude Data and 2 s Complement Data In Computer Organization

Lesson 31 :
Multiplication Algorithm With Signed Magnitude Data In Computer Organization Architecture

Lesson 32 :
Booth Multiplication algorithm with example Multiplication with signed 2 s complement data CO CA

Lesson 33 :
Array Multiplier In Computer Organization Multiplication Algorithm Computer Architecture

Lesson 34 :

Division Algorithm In Computer Organization Architecture Restoring Algorithm Signed Magnitude

Lesson 35 :
Floating Point Addition and Subtraction Algorithm Floating Point Arithmetic Computer Organization

Lesson 36 :
Floating Point Multiplication Algorithm Floating Point Arithmetic Computer Organization Architecture

Lesson 37 :
Floating Point Division Algorithm Floating Point Arithmetic Computer Organization Architecture

Lesson 38 :
Decimal Arithmetic Unit In Computer Organization Architecture BCD Adder Subtraction one stage

Lesson 39 :
Decimal Arithmetic Operations In Computer Organization Architecture Addition Multiplication

Lesson 40 : **Memory Hierarchy In Computer Organization Architecture Memory Organization**

Lesson 41 : **Main Memory RAM In Computer Organization Architecture Memory Connection to CPU**

Lesson 42 :
Cache Memory Direct Mapping Associative Mapping Set Associative Computer Organization Architecture

Lesson 43 : **Associative Memory In Computer Organization Architecture**

Lesson 44 : **Virtual Memory In Computer Organization Architecture**

Lesson 45 : **Peripheral Devices In Computer Organization Architecture Input Output Organization**

Lesson 46 :
Input Output Interface Memory Mapped I O Isolated I O Computer Organization Architecture

Lesson 47 :
Asynchronous Data Transfer Strobe Handshaking Serial Asynchronous Communication Interface

Lesson 48 :
Programmed I O Modes of Transfer Computer Organization Architecture Input Output Organization

Lesson 49 :
Interrupt Initiated I O Priority Daisy Chaining Parallel Priority Encoder Cycle Modes of Transfer

Lesson 50 :
Direct Memory Access DMA Controller in Computer Organization Architecture Modes of Transfer

Lesson 51 : **Input Output Processor IOP In Computer Organization Architecture**

Lesson 52 :
Serial Communication In Computer Organization Architecture Character Oriented Protocol Bit

Lesson 53 :
Parallel Processing in Computer Organization Architecture Pipelining Flynn classification comp

Lesson 54 : **Pipelining In Computer Organization Architecture**

Lesson 55 : **Arithmetic Pipeline Computer Organization Architecture Pipelining**

Lesson 56 : **Instruction Pipeline In Computer Organization Architecture Pipelining**

Lesson 57 :
RISC Pipeline In Computer Organization Architecture Three Segment Instruction Pipeline

Lesson 58 :

Vector Processing In Computer Organization Architecture Memory Interleaving Pipelining

Lesson 59 : Array Processors In Computer Organization Architecture SIMD

Lesson 60 : Characteristics of Multiprocessors In Computer Organization Architecture

Lesson 61 : Interconnection Structures in Computer Organization Architecture

Lesson 62 :
Inter Processor Arbitration in Computer Organization Architecture Serial Parallel Dynamic

Lesson 63 :
Inter Processor Communication and Synchronization in Computer Organization Architecture

Lesson 64 :
Cache Coherence Problem in Computer Organization Architecture Solutions to Cache Coherence Problem

Related courses

Linear Algebra for Computer Scientists

Insertion Sort

Bubble Sort

GCSE Computer Science

Random Access Memory

Binary Trees

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