Mindluster Platform

About the course Computer hardware and architecture basics

Computer hardware and architecture, in this course offers an in-depth understanding of the components and design principles behind modern computing systems. Explore the fundamentals of hardware, including processors, memory systems, storage devices, and input/output units, while gaining insight into architectural concepts like instruction set architecture (ISA), parallel processing, and system design. Learn how components like CPUs, motherboards, and power supplies interact to create efficient and reliable systems. Delve into advanced topics such as embedded systems, FPGA design, and hardware security. By the end of the course, you'll be equipped to analyze, design, and optimize computer systems, preparing you for careers in hardware engineering, system design, or IT infrastructure.

Computer Softwares Category's Courses

Course Lesson(38)

Lesson 1 : **Personal Computer Architecture**

Lesson 2 : **Graphics Processing Unit GPU**

Lesson 3 : **Fetch Decode Execute Cycle and the Accumulator**

Lesson 4 : **Fetch Decode Execute Cycle in more detail**

Lesson 5 : **Processor Addressing Modes**

Lesson 6 : **Introduction to Logic Gates**

Lesson 7 : **Logic Gate Combinations**

Lesson 8 : **Logic Gate Expressions**

Lesson 9 : **Logic Gates and the Ripple Carry Adder**

Lesson 10 : **Dynamic Random Access Memory DRAM Part 1 Memory Cell Arrays**

Lesson 11 : **Dynamic Random Access Memory DRAM Part 2 Read and Write Cycles**

Lesson 12 : **Dynamic Random Access Memory DRAM Part 3 Binary Decoders**

Lesson 13 : **Dynamic Random Access Memory DRAM Part 4 Multiplexers and Demultiplexers**

Lesson 14 : **Dynamic Random Access Memory DRAM Part 5 DIMM Organisation**

Lesson 15 : **Dynamic Random Access Memory DRAM Part 6 Burst Mode and Bank Interleaving**

Lesson 16 : **Dynamic Random Access Memory DRAM Part 7 Memory Address Mapping**

Lesson 17 : **Computer Networks Part One LANs and WANs**

Lesson 18 : **Computer Networks Part Two Network Hardware**

Lesson 19 : **Computer Networks Part Three Ethernet**

Lesson 20 : **Latches and Flip Flops 1 The SR Latch**

Lesson 21 : **Latches and Flip Flops 2 The Gated SR Latch**

Lesson 22 : **Latches and Flip Flops 3 The Gated D Latch**

Lesson 23 : **Latches and Flip Flops 4 â€“ The Clocked D Latch**

Lesson 24 : **Latches and Flip Flops 5 â€“ D Type Flip Flop**

Lesson 25 : **Karnaugh Maps â€“ Introduction**

Lesson 26 : **Karnaugh Maps with 4 Variables**

Lesson 27 : **Karnaugh Maps â€“ Simplify Boolean Expressions**

Lesson 28 : **The Hard Drive Buffer**

Lesson 29 : **RISC versus CISC**

Lesson 30 : **Little Man Computer 1 Introduction**

Lesson 31 : **Little Man Computer 2 Branching Code**

Lesson 32 : **Little Man Computer 3 Loops**

Lesson 33 : **Harvard Architecture versus Von Neumann Architecture**

Lesson 34 : **Byte Order Endianness**

Lesson 35 : **OLD The Accumulator Register**

Lesson 36 : **The Fetch Decode Execute Cycle**

Lesson 37 : **The Accumulator**

Lesson 38 : **Pipeline Architecture**

Related courses

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