Computer Systems Fundamentals

University Computer Science · Vocabulary in context

Word	Example
two's complement /tuːz ˈkɒmplɪmənt/	In eight-bit **two's complement**, 11111111 represents -1. 11111111 -1
unsigned /ʌnˈsaɪnd/	An **unsigned** byte can store 0 to 255. 0 255
IEEE-754	**IEEE-754** stores a decimal number as a sign, an exponent and a fraction. `
ASCII /ˈæski/	**ASCII** uses 7 bits to give 128 characters. 7 bits 128
Unicode /ˈjuːnɪkəʊd/	**Unicode** gives a number to every character, including Chinese.
NAND	A **NAND** gate gives 0 only when both inputs are 1. 1 0
half adder /hɑːf ˈædə/	A **half adder** adds two bits.
full adder /fʊl ˈædə/	A **full adder** adds two bits and a carry.
multiplexer /ˈmʌltɪpleksə/	A **multiplexer** uses a select line to choose one of its inputs.
fetch-decode-execute cycle	The CPU follows the **fetch-decode-execute cycle** while running instructions. CPU
cache /kæʃ/	The **cache** keeps data the processor needs often.
locality	Using array items that sit next to each other shows good **locality**.

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addressing mode /əˈdresɪŋ məʊd/	The **addressing mode** tells the processor how to find the operand.
process /ˈprəʊses/	A program that is running is a **process**.
context switch /ˈkɒntekst swɪtʃ/	A **context switch** saves one process and loads another.
virtual memory /ˈvɜːtʃuːəl ˈmeməri/	**Virtual memory** uses the disk when RAM is full. RAM
page fault /peɪdʒ fɒlt/	A **page fault** happens when the page is not in RAM. RAM
system call	A **system call** asks the operating system to do something, such as open a file.
linker /ˈlɪŋkə/	The **linker** joins compiled files into one program.
assembler /əˈsemblə/	The **assembler** turns assembly language into machine code.
preprocessor /prɪˈprəʊsesə/	The C **preprocessor** handles #include and #define before compiling. C #include #define
computer systems fundamentals	**Computer systems fundamentals** explain how programs use the hardware.
overflow /ˌəʊvəˈfləʊ/	Adding 200 and 100 in one byte causes **overflow**. 200 100
rounding /ˈraʊndɪŋ/	**Rounding** 0.1 in binary causes a tiny error. 0.1
files	**Files** store data with a name on the disk.

Word	Example
01 10 **compiler** /kəmˈpaɪlə/	The **compiler** turns the whole program into machine code.

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