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Intro to Computing

Chapter 7 Review Questions

1. What is symmetric encryption? Give an example

The same key is used to encrypt and decrypt the information. Private messaging or proton mail.

1. What is asymmetric encryption? Give an example

Encryption that uses a public key and a personal key pairing. HTTPS and TLS/SSL.

1. What is AND gate? What is OR gate?

AND gate is a circuit notation where both/all incoming must be on for the outgoing to send. OR gate is a circuit notation where either/any incoming causes the outgoing to send.

1. What is arithmetic shift? Give an example.

The arithmetic shift preserves the number’s sign by shifting bits left or right while filling in the vacated bit with the sign bit, effectively maintaining the number’s overall value even as it scales.

1. What is DeMorgan's Law?

(A ∪ B)’ = A’ ∩ B’

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1. Describe the following terms: **circuit, transistor, wafer, fab, fabless, foundry, ALU, CPU, GPU,**

* Circuit: A path or route the complete traversal of which without local change of direction requires returning to the starting point.
* Transistor: A transistor is a semiconductor device used to amplify or switch electrical signals and power.
* Wafer: s a thin slice of semiconductor, such as a crystalline silicon, used for the fabrication of integrated circuits and, in photovoltaics, to manufacture solar cells.
* Fab: fabrication abbreviation (semiconductor foundry: manufactures semiconductors).
* Fabless: out sourcing the fabrication of semiconductors to a semiconductor foundry).
* Foundry: a semiconductor manufacturer.
* ALU: arithmetic logic unit (a combinational digital circuit that performs arithmetic and bitwise operations on integer binary numbers).
* CPU: central processing unit (the main processor on a mother/logic board).
* GPU: graphics processing unit (the processor on a video card).