Course: Computer and Communication Networks

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Topic: Open Systems Interconnection (OSI) Model

Presentation by

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www.thapar.edu

Reference: 1. Ferouzan, Behrouz A., Data Communications and Networking, 2. Stallings William, Data and Computer Communication

Open Systems Interconnection (OSI)Model

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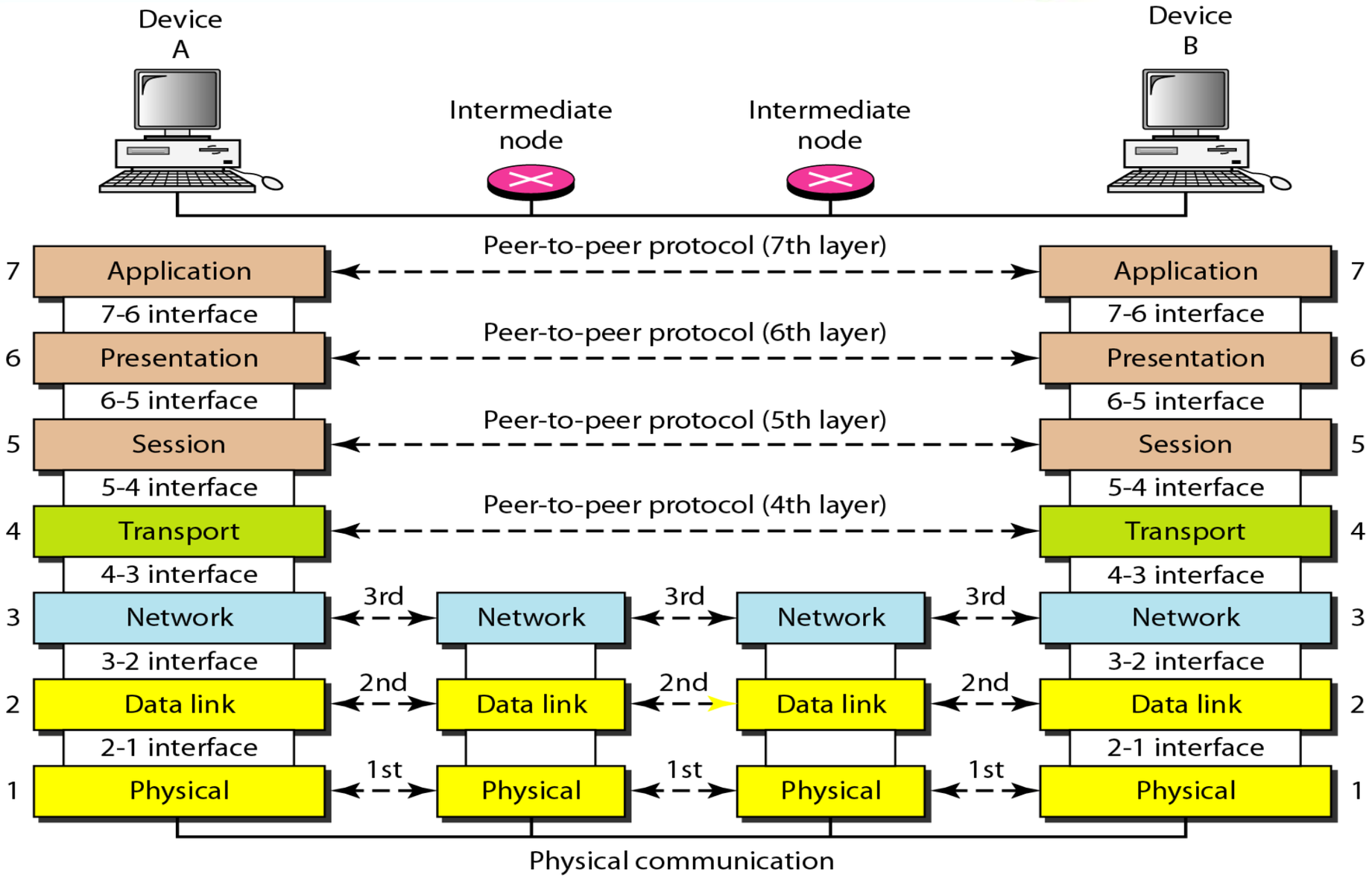

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Open Systems Interconnection (OSI)Model

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Layer	Function	Example
Application (7)	Services that are used with end user applications	SMTP,
Presentation (6)	Formats the data so that it can be viewed by the user Encrypt and decrypt	JPG, GIF, HTTPS, SSL, TLS
Session (5)	Establishes/ends connections between two hosts	NetBIOS, PPTP
Transport (4)	Responsible for the transport protocol and error handling	TCP, UDP
Network (3)	Reads the IP address form the packet.	Routers, Layer 3 Switches
Data Link (2)	Reads the MAC address from the data packet	Switches
Physical (1)	Send data on to the physical wire.	Hubs, NICS, Cable

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OSI and TCP/IP Model

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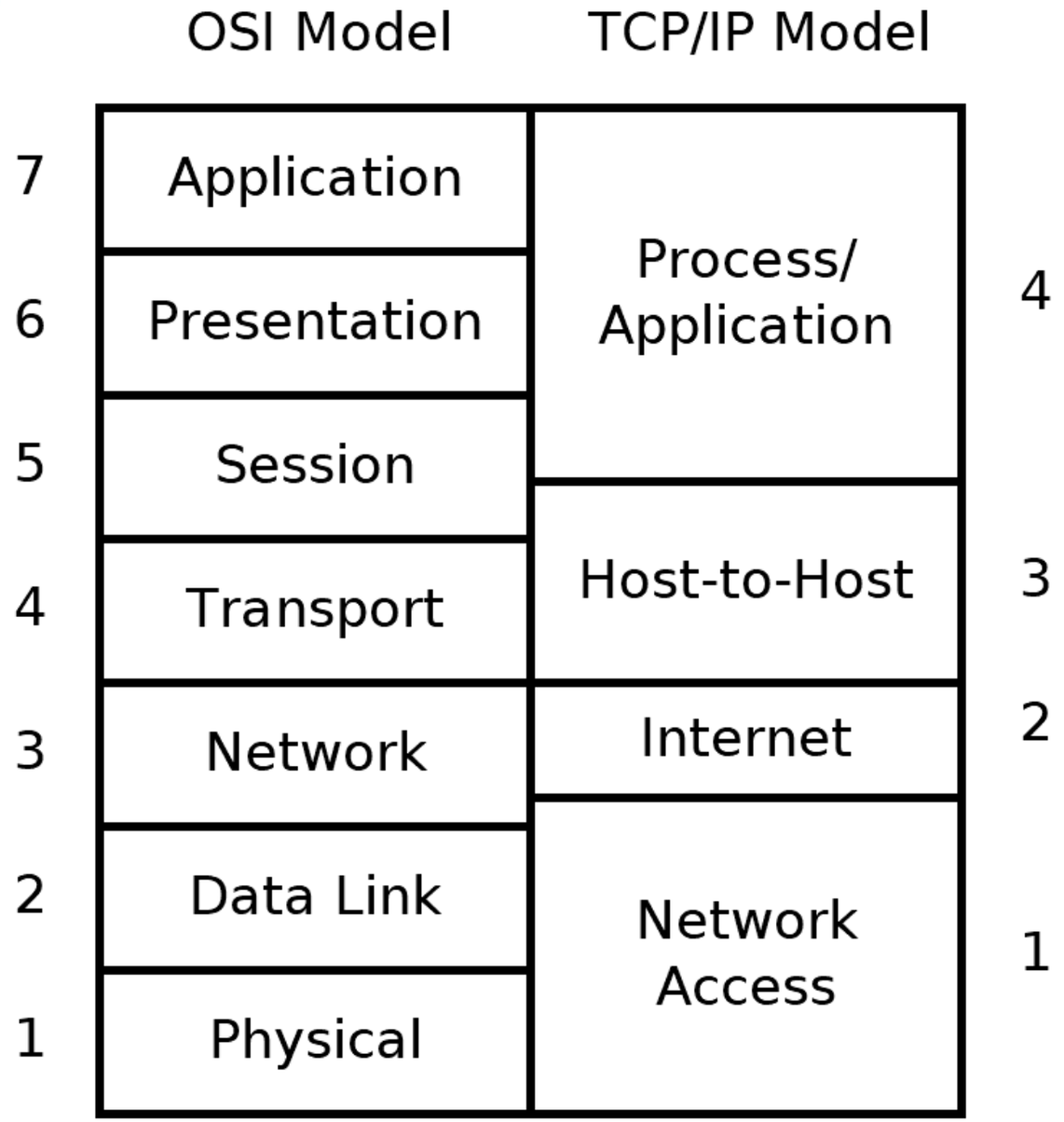

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Network Topologies

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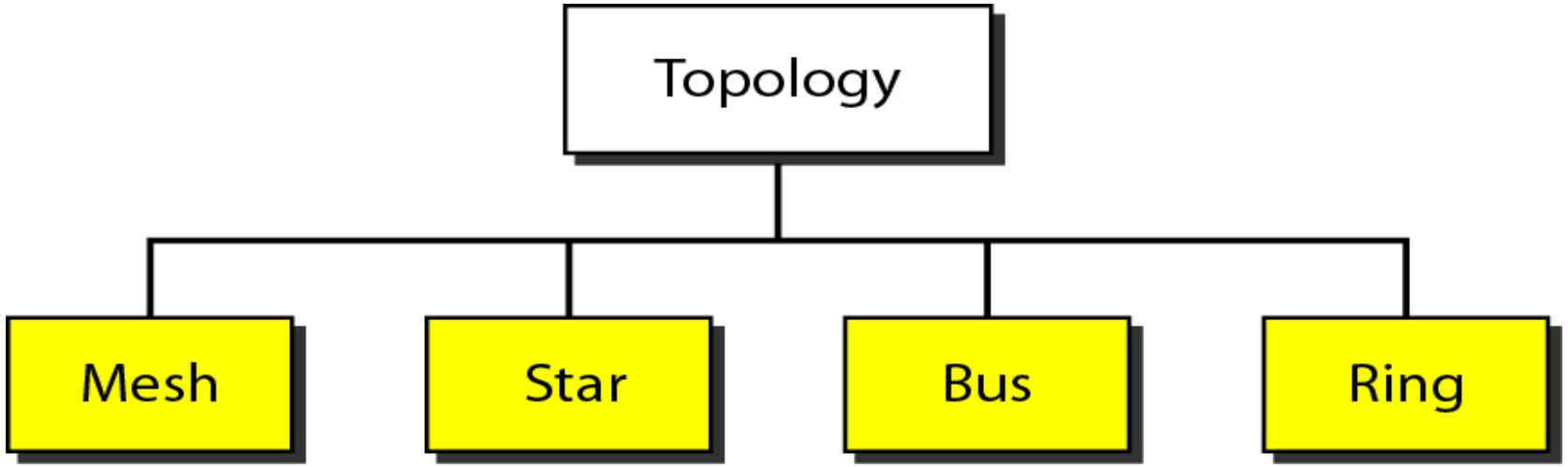

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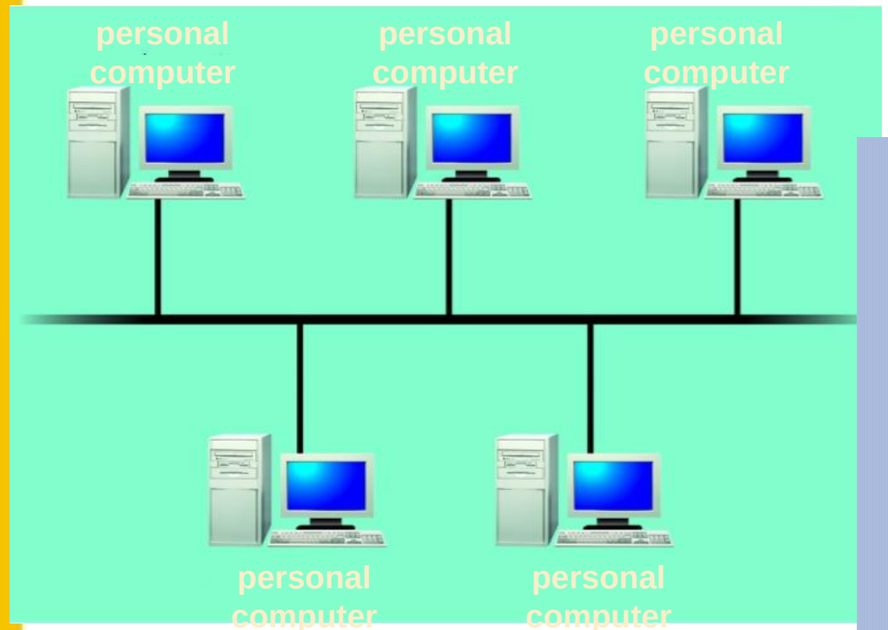
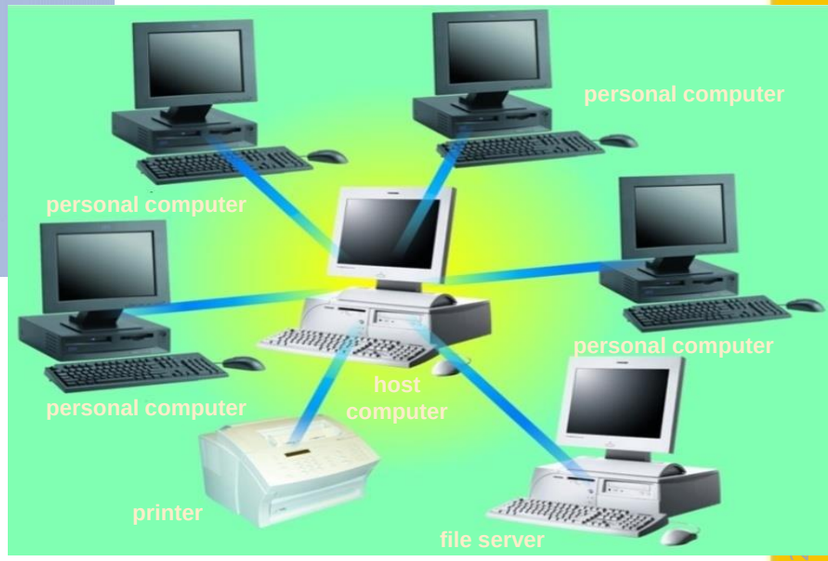
Network Topologies (Contd.)





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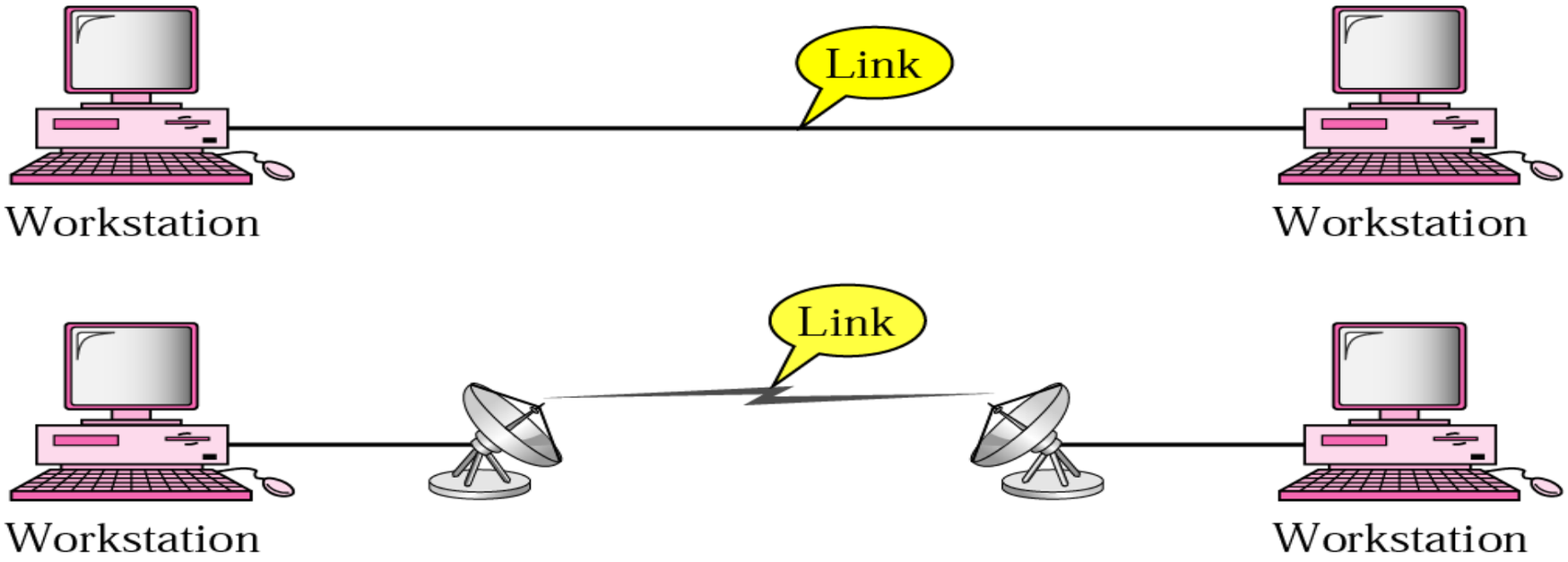
Types of Connections

- Point-to-point – dedicated link



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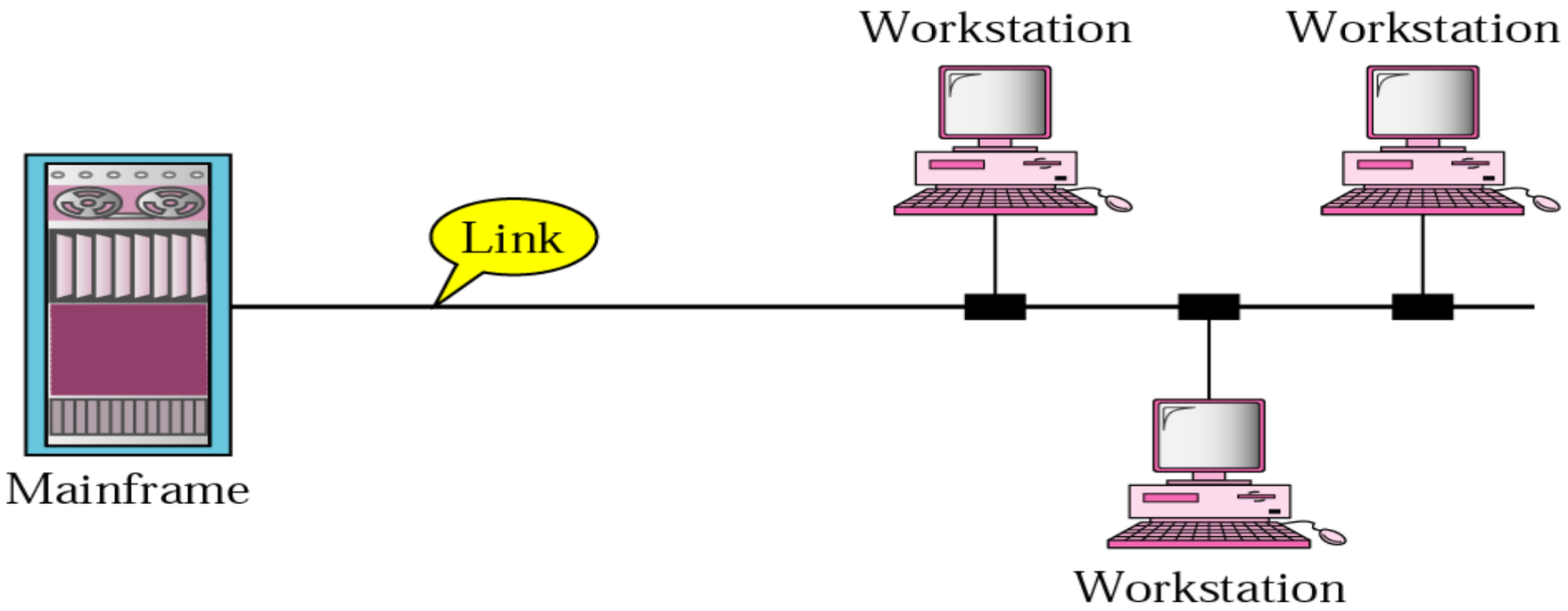
Types of Connections (Contd.)

- Multipoint (Multidrop) – shared a single link



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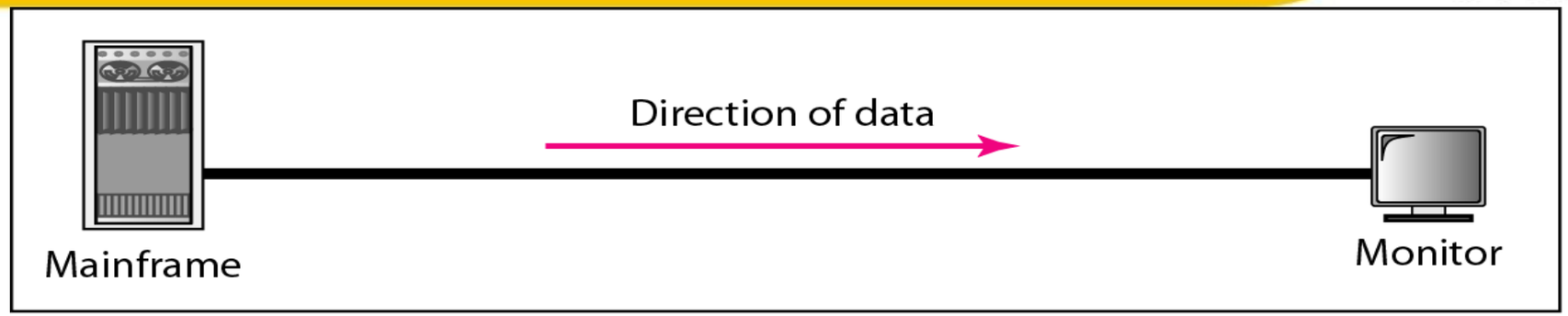
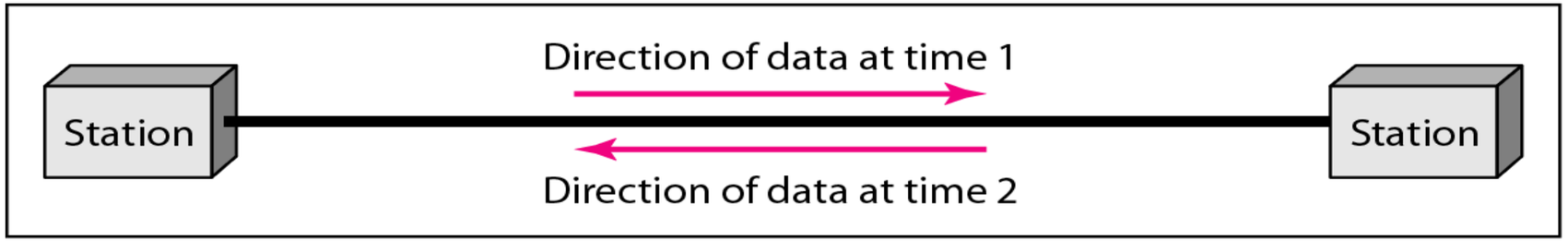
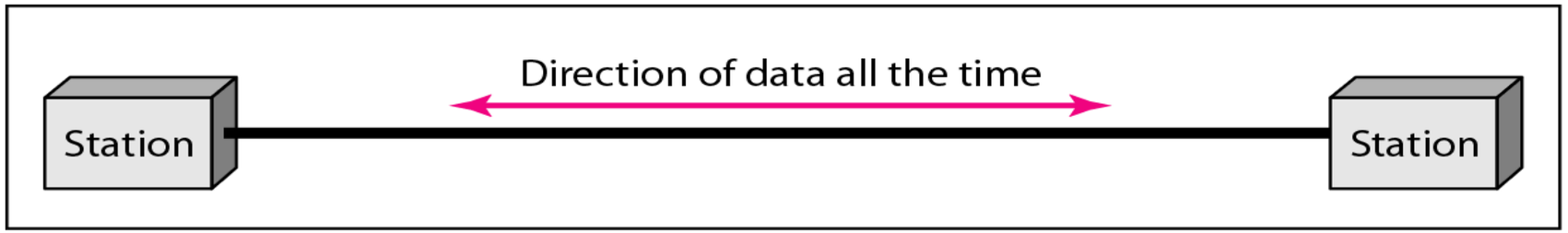
Data flow (simplex, half-duplex, and full-duple



a. Simplex



b. Half-duplex



c. Full-duplex

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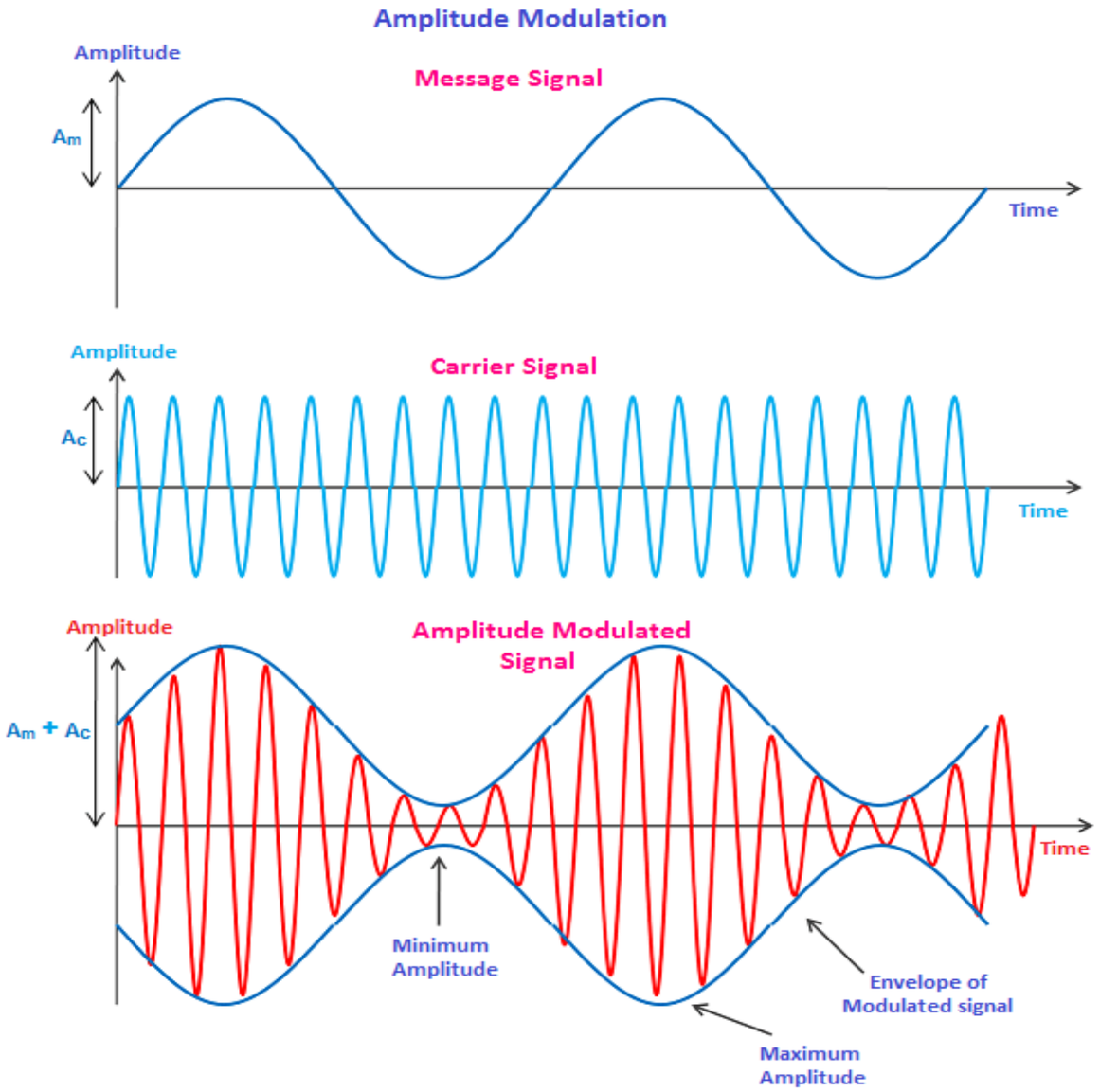

Analog Modulation

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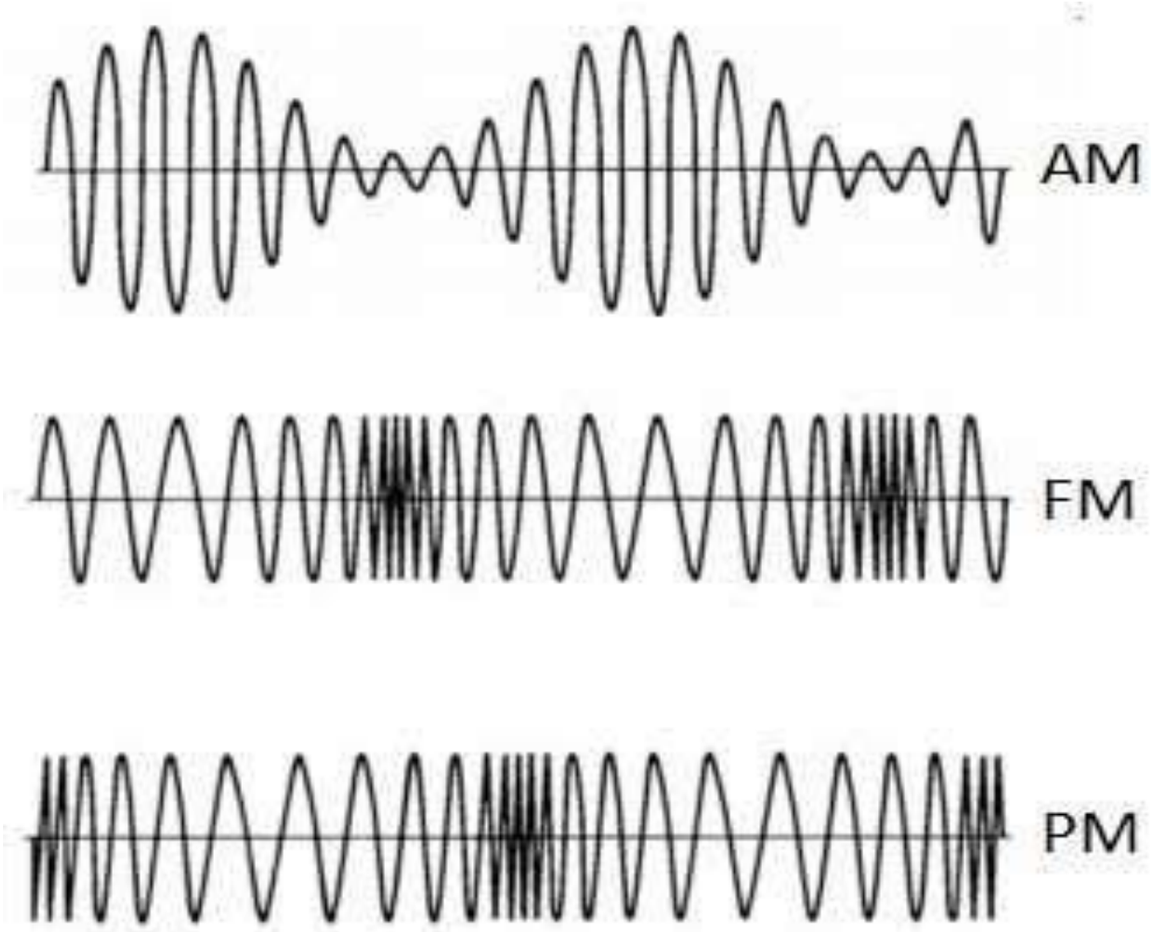

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Shift Modulation

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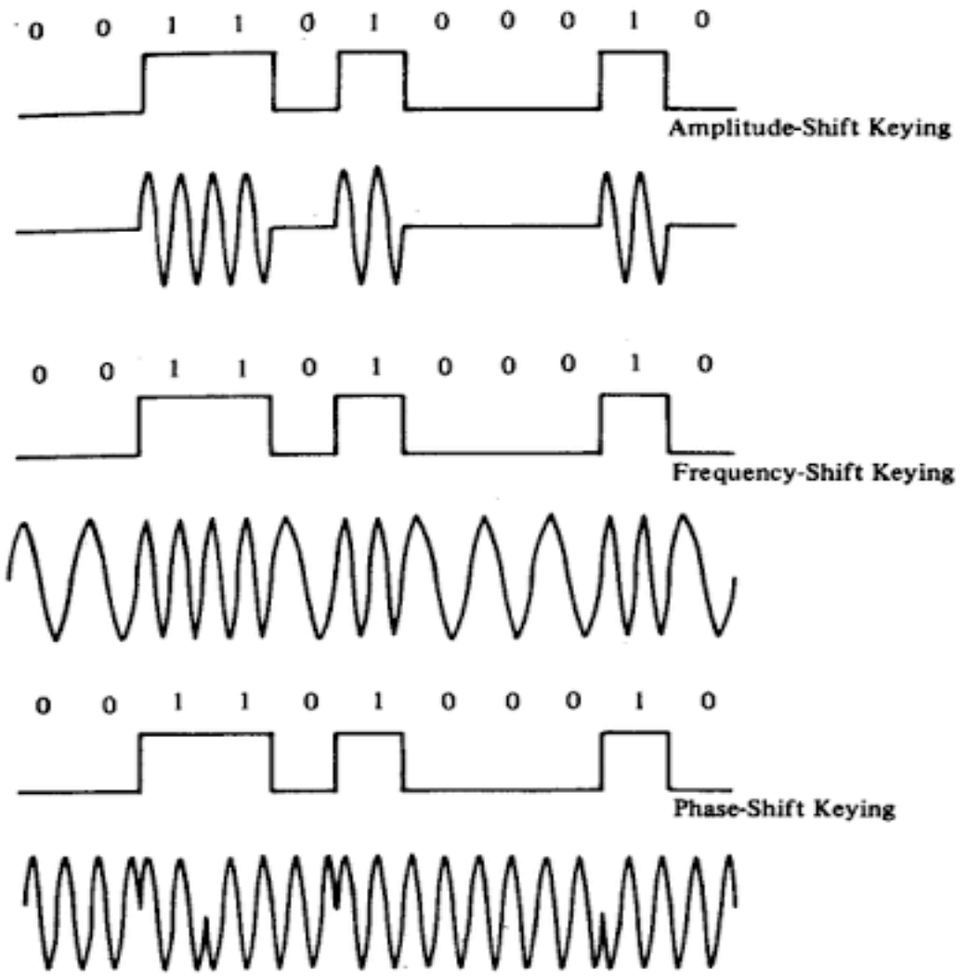

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Digital Modulation

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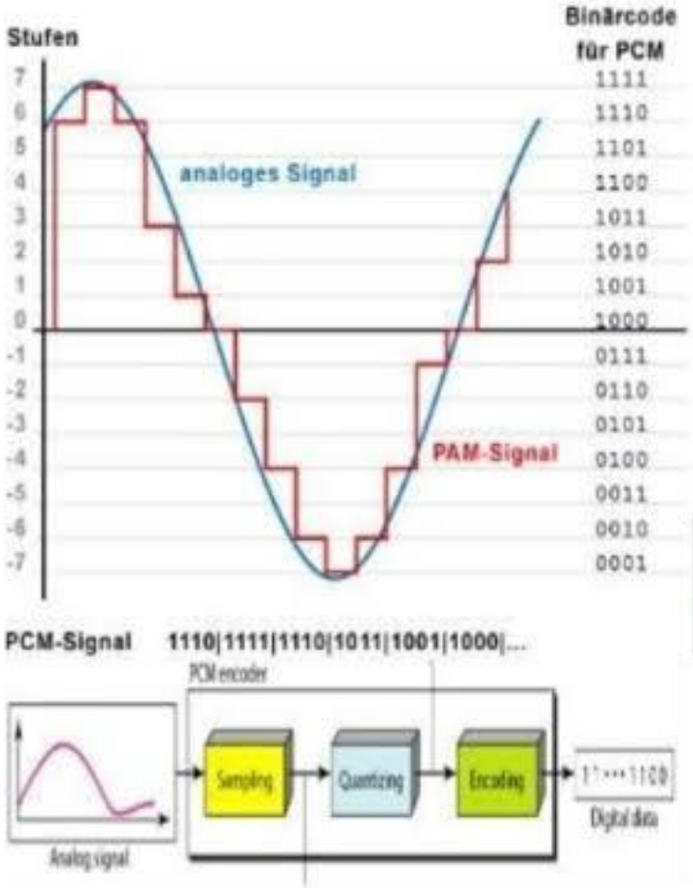

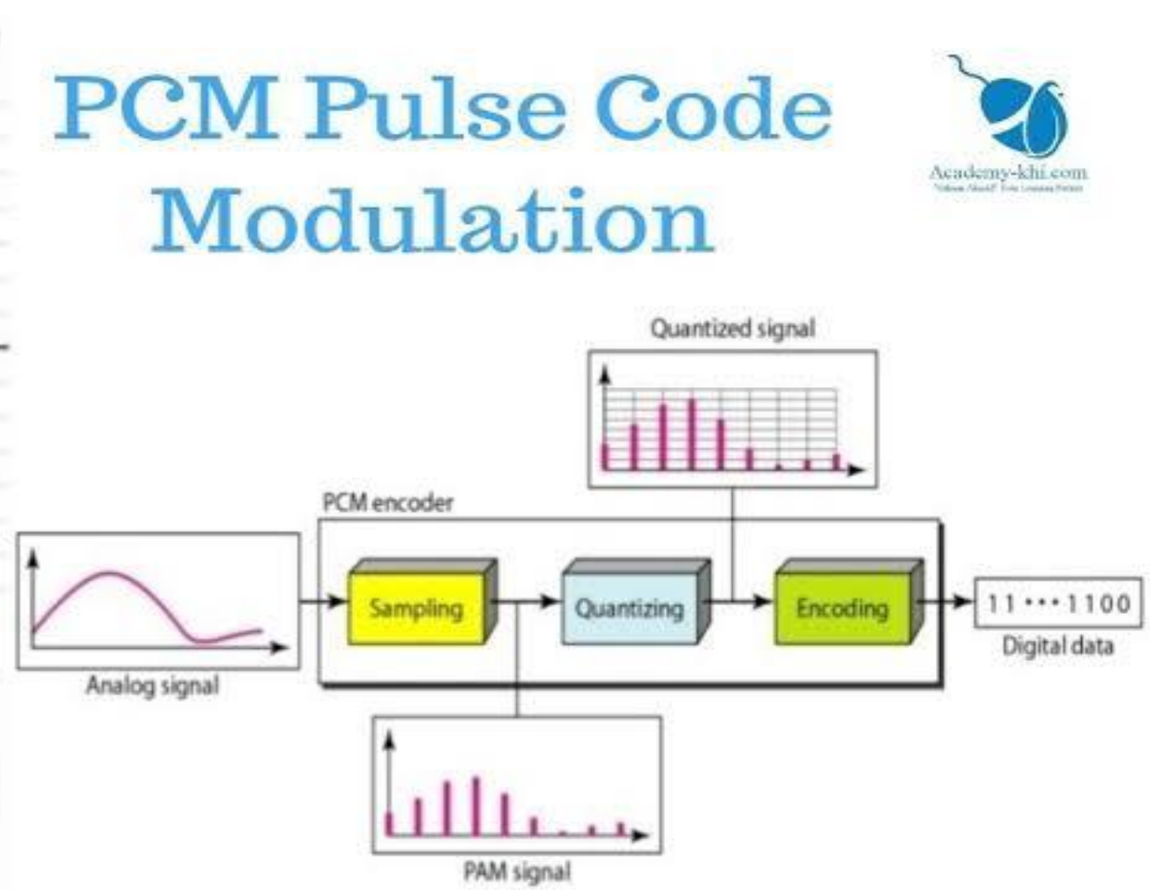

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Line Coding

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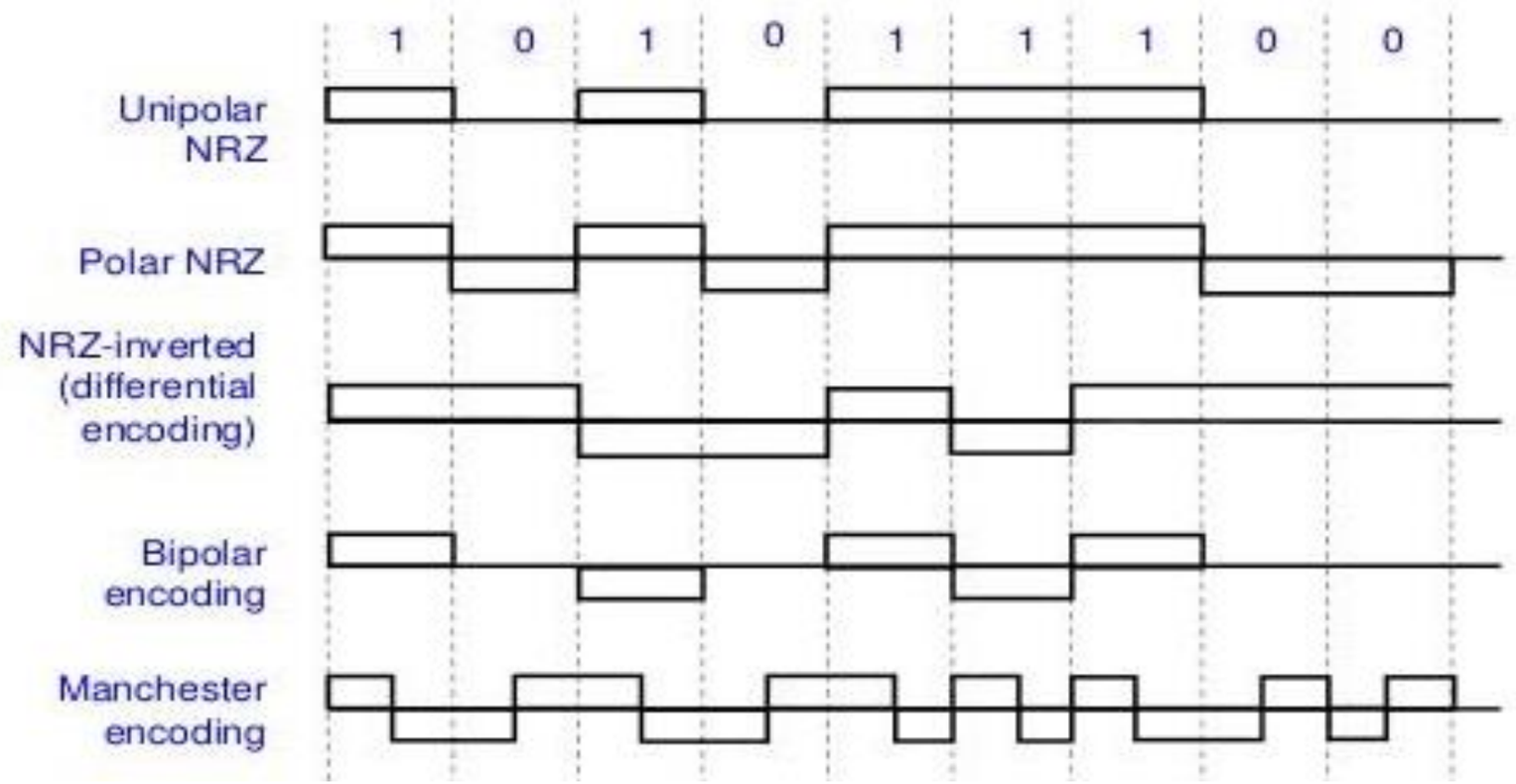

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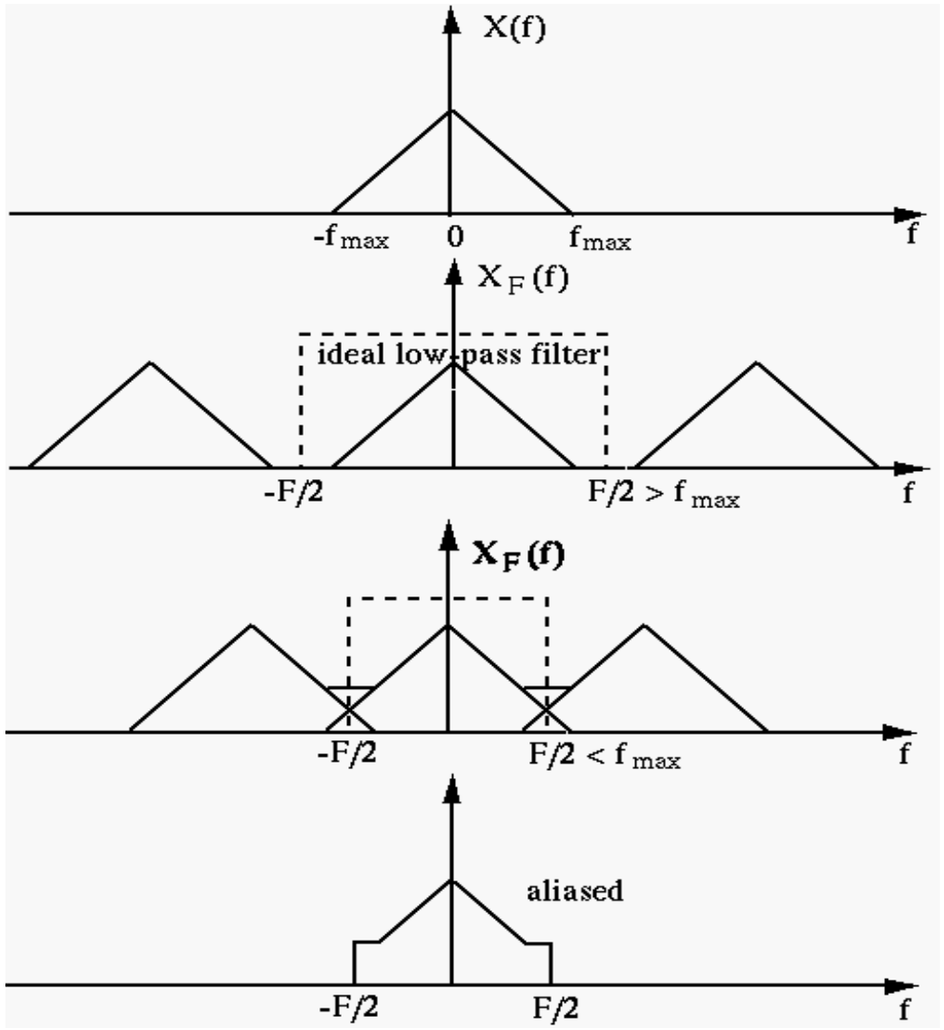
Sampling



Thank You

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