S

Switch Operation

Fa1 Fa3 Fa6 Fa8

Host1   Host2

Host3   Host4

Frame Source Address: 0A

Frame Destination Address: 0C

MAC TABLE

Port	MAC Address	Time

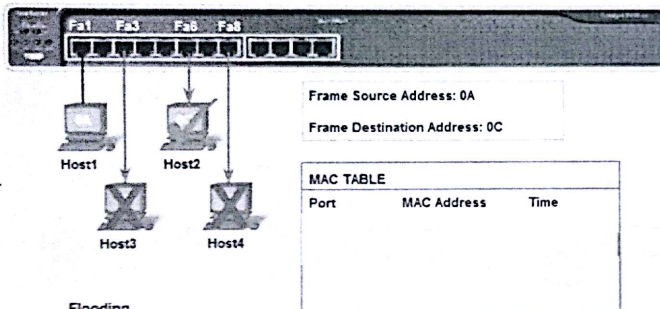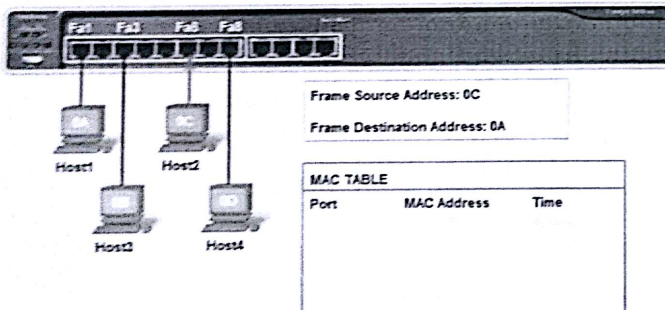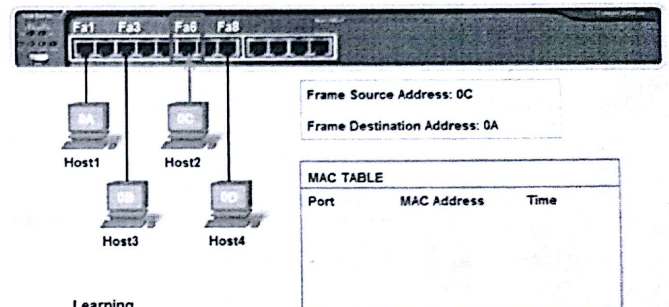**Flooding**

The destination MAC address, 0C, is not in the MAC Table. The switch floods the frame out all ports except port Fa1, the port for the sender. Host3 and Host4 receive the frame, but the address in the frame does not match their MAC address. They drop the frame. The destination MAC address in the frame matches Host2 and it accepts the frame.

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Switch Operation

Fa1 Fa3 Fa6 Fa8

Host1   Host2

Host3   Host4

Frame Source Address: 0C

Frame Destination Address: 0A

MAC TABLE

Port	MAC Address	Time

Learning

The switch reads the source MAC address, 0C, from the frame received on port Fa6, and stores it in the MAC address table for use in the forwarding of frames to Host2.

Switch Operation

Fa1 Fa3 Fa6 Fa8

Host1   Host2

Host3   Host4

Frame Source Address: 0C

Frame Destination Address: 0A

MAC TABLE

Port	MAC Address	Time

Host2 sends a frame to Host1 containing a reply. The source address in the frame is the MAC address of Host2. The destination address in the frame matches the MAC address for Host1.
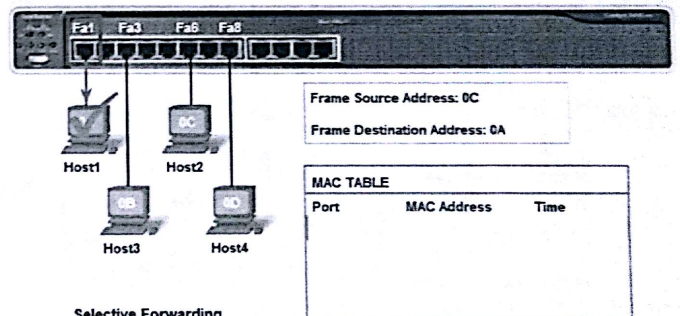
Switch Operation

Fa1 Fa3 Fa6 Fa8

Host1   Host2

Host3   Host4

Frame Source Address: 0C

Frame Destination Address: 0A

MAC TABLE

Port	MAC Address	Time

Selective Forwarding

The destination MAC address, 0A, is in the MAC address table. The switch selectively forwards the frame out port Fa1 only. The destination MAC address in the frame matches the MAC address for Host1. Host1 accepts the frame.