Link layer switches – Question 1

i.

|  |  |  |
| --- | --- | --- |
| Switch | MAC address | interface |
| B1 | A | 2 |
| B2 | A | 1 |
| E | 2 |
| B3 | A | 2 |
| E | 1 |
| B4 | A | 2 |
| E | 3 |

ii.

let us draw the APR table after a message was sent from A to E in the new network configuration (the only change is marked in red color):

|  |  |  |
| --- | --- | --- |
| Switch | MAC address | interface |
| B1 | A | 2 |
| B2 | A | 1 |
| E | 2 |
| B3 | **A** | **4** |
| E | 1 |
| B4 | A | 2 |
| E | 3 |

Note: the notation **Bi:j** stands for interface j in switch Bi.

* **Message from D to A**

let us write the message's path:

D 🡪 B4:1 🡪B4:2 🡪B3:1🡪B3:4🡪A

Hence, **this message gets to its destination**.

* **Message from C to A**

let us write the message's path:

C 🡪 B1:3 🡪 B1:2 🡪 B2:3 🡪 B2:1 🡪 no host connected…

Hence, **this message does not get to its destination**. That happens because switch B2 has not learned yet about A's new interface (in its table it is still connected via interface 1, when it is actually connected via interface 2).