

## Ethernet LANs

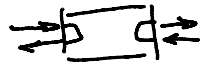
**Exercise 1:** How many possible OUI's are there? How many devices can be manufactured for each OUI?

$$\text{OUIs: } 2^{3 \times 8} = 2^{24} \approx 16 \text{ million}$$

same:

$$\text{devices per OUI: } 2^{24} \approx 16 \times 10^6$$

**Exercise 2:** Classify each of a hub, learning bridge and switch according to the following: can operate in full-duplex mode, can have independent PHY rates, collisions can happen, can receive from multiple ports simultaneously.



	HUB	Learning Bridge	Switch
full duplex?	NO	YES	YES
different PHY rates?	NO.	YES	YES
collisions	YES	NO.	NO.
independent PHY rates	NO	YES	YES.
receive multiple simultaneously	NO.	YE	YES.