1. Consider a link of 1000m with a bandwidth 1Gbps and the propagation speed of 10^8 m/sec.

a) What is the propagation delay through this line?

>> propagation delay = distance/velocity
= 1000(m) / 10^8(m/sec) = 10^-5 sec

b) What is the transmission delay of a packet of 1000bytes?

>> transmission delay = (amount of data) / (data rate)
= 8*10^3 (bits) / 10^9 (bits/sec) = 8*10^-6 sec

c) How many bits can be contained in the link at most?

>> propagation dalay * data rate = 10^-5 (sec) * 10^9 (bits/sec)
= 10^4 bits

2. Compare Ethernet hubs and Layer2 switches.

>> hub : operates at layer 1 (signal)

layer 2 switch : operates at layer 2 (frame)
buffer가 존재해 충돌이 발생할 것 같으면 잠시 저장
따라서 현재 CSMA/CD 사용 안함

3. Where and when does “store and forward processing” occur?

>> store and forward는 packet switch에서 일어나고 store and forward의 발생 시점은 packet이 packet switch에 도착했을 때 store가 일어나고 forward는 packet switch에서 packet을 검사하고 목적지를 확인하고 난 뒤 forward를 시행한다.