

1.1)

a)

Star topology is when all nodes in the network are connected through one centralized node. It's cheaper to implement but a caveat is how it's centralized. If the centralized node disables then all nodes lose connection with each other.

b)

Bus topology is all nodes in a network being connected through the same physical link. This approach is easier to maintain and expand but creates the risk of collisions which require proper protocols to either prevent or recover from them.

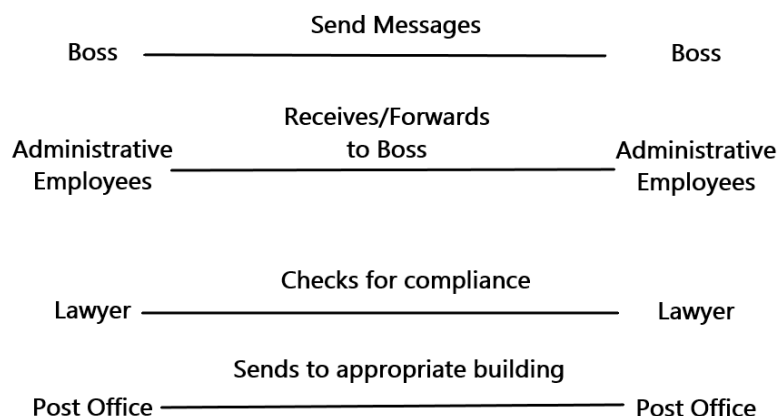
c)

Meshed topology is all nodes in the network having a direct physical link with each other. It's non centralized so it's very hard to destroy the connections between nodes but is very expensive to implement. Partially meshed topology also exists which just means that not all nodes have direct physical links just most of them and they all can still communicate with each other.

1.2)

Packet switching is when all messages sent through the network share the links and nodes on their path from sender to receiver. Circuit switching means that the links and nodes are reserved for one sender-receiver connection. A good comparison would be a highway. In packet switching you would share the highway with multiple other cars but in circuit switching you have the entire highway to yourself.

1.3)



2)

