

**Homework #3**  
**(Due on 12:00am, Thursday, Nov. 09th, 2017)**

1. Please briefly describe the learning process that a switch uses to fill its tables.
2. What are the differences between a switch and a router?
3. What is the byte stuffing in PPP protocol?
4. Please explain the Hidden Terminal Problem.
5. Consider the IEEE 802.11 MAC Protocol: How does CSMA/CA tackle the problem of collisions (what steps are taken at the sender and receiver respectively)? What is the idea behind the RTS/CTS concept?
6. One of the advanced capabilities of IEEE802.11 Standard is Rate Adaptation, please describe this briefly.