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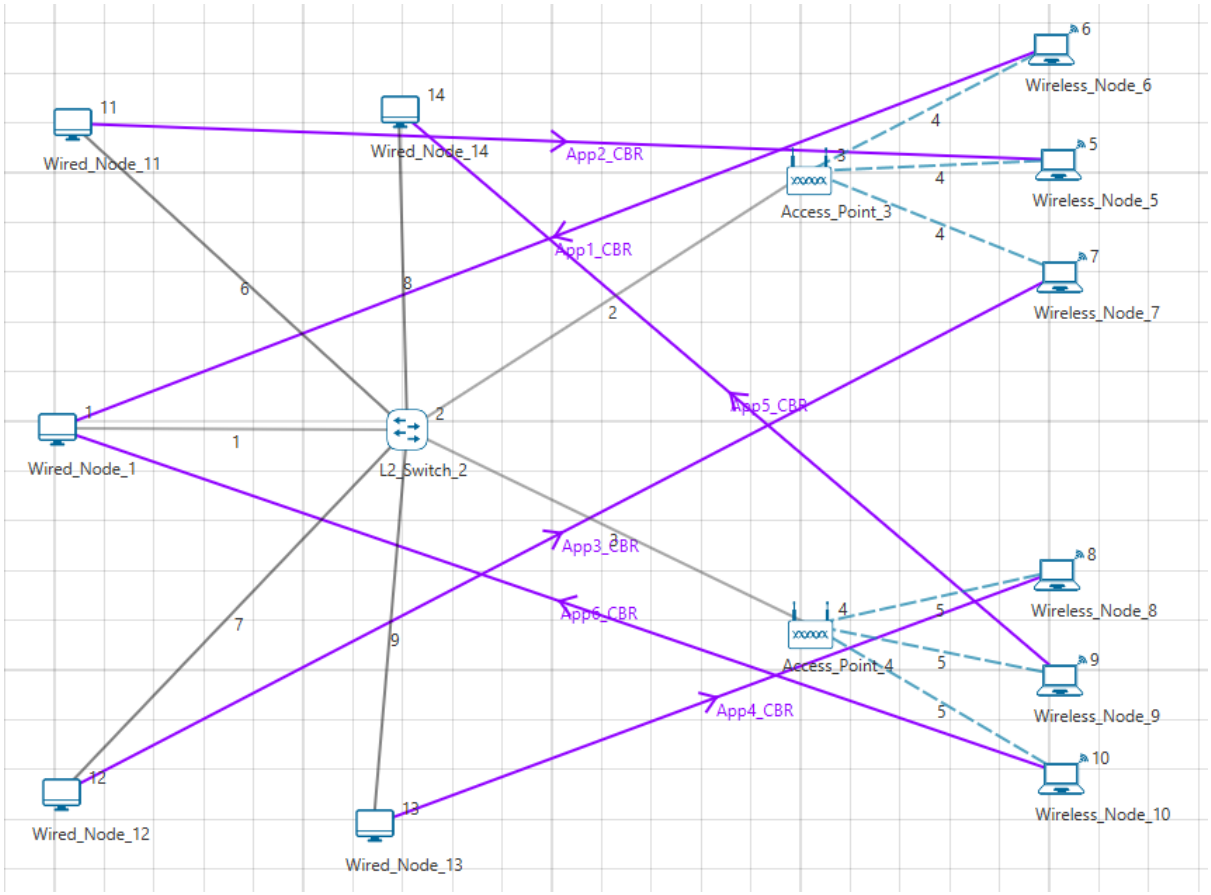
Computer Networks Lab (CS 353): Lab 6/Assignment 4 (Graded)

Create a network as shown below where multiple wired nodes are connected to a switch and wireless nodes are connected through an access point. Create multiple CBR applications between different nodes in the network (shown below), such that each application begins 1 second after the first application. Consider a 802.11b wireless channel with DCF MAC_Protocol.



List the following metrics after a simulation run of 20 seconds:

1. Switching table of L2_Switch_2.
2. Access_Point_3 and Access_Point_4 metrics:
    a. Number of frames forwarded to the switch.
    b. Number of frames forwarded to the stations connected to Access Points (3, 4).
    c. Number of collided frames.
    d. Number of frames received in error.
    e. Number of data frames generated.
    f. Number of control frames generated.

g. Number of frames retransmitted.
h. List the frame that required highest number back-offs before transmission. (Source and destination of such a frame).

3. Compare link-throughput of Link 4 and Link 5 (shown in figure).
4. Compare the network performance in terms of application and link throughput for standards IEEE 802.11a and IEEE 802.11g.