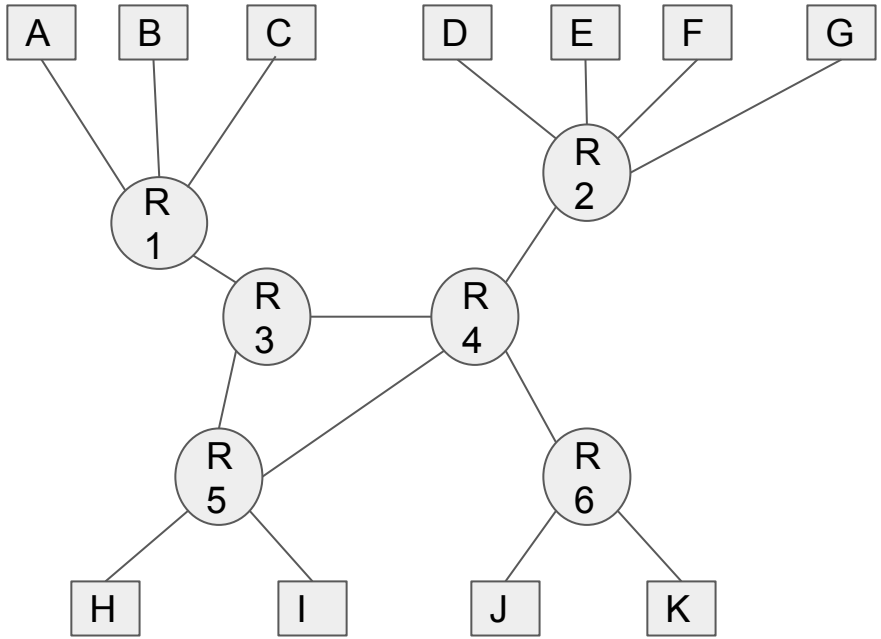
Assignment 4

Topology



Simulation Scenario: [4+2+4+4 = 14 marks]

Q1. (a) Create a network with above topology in NS-3, R1-R6 are routers and A-K are hosts

(b) All links have a cost of 1, except the link R4-R5 has a cost 5

Q2. Assign IP addresses to each subnet connected to the router

Q3. (a) Use RIP routing algorithm with Ipv4 and Poison Reverse as split horizon technique.

(b) After 25 - sec, break the link between R3-R4.

Q4. Host A pings K and G pings H. Ping for 80 seconds and show the packet loss and average RTT in ms.

Run the simulation for 90 sec.

Tracing

Q1. Pcap [2 + 2]

a. Number of ICMP packets in pcap files of A ,G, H and K.

b. Number of ARP packets in pcap files of A ,G, H and K.

Q2. Print routing tables of all the routers at 10, 40 and 80 sec. [3]

Q3. Observe major differences between the routing tables of R4 router generated at above mentioned times. [3]

Visualization

Q1. Visualize the above simulation using NetAnim/PyViz in ns3. You will have to run the simulation during the demo. [4]

Q2. Paste a screenshot and report your observations of the simulation in your pdf. [2]