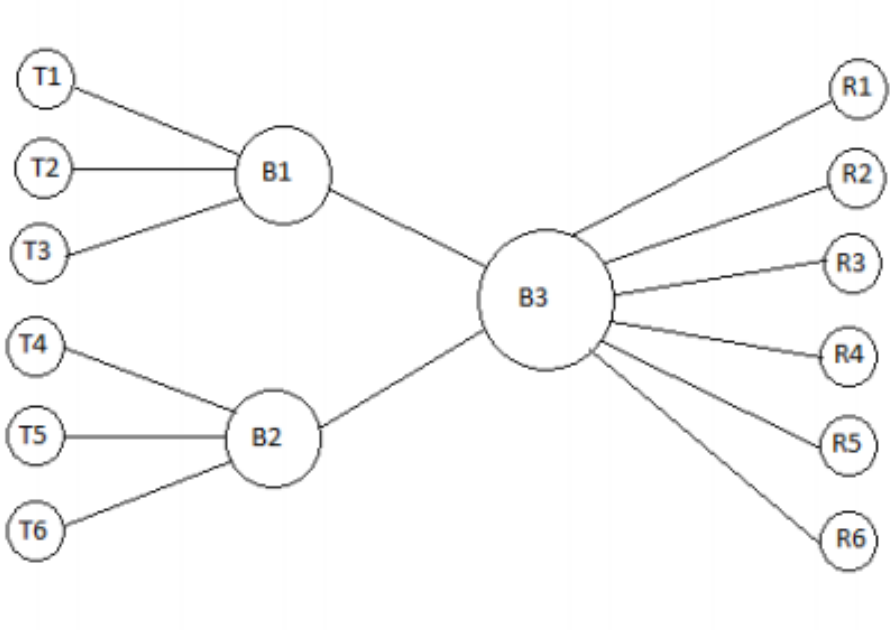
Assignment 1

What do you learn today ?

- Simulating a network topology in NS-2
- Effect of bottleneck nodes

Problem Statement

Consider the topology as shown below where T1-T6 are transmitters and R1-R6 are receivers. R1 receives from T1, R2 receives from T2 and so on. B1,B2 and B3 act as bottleneck nodes and also provide for routing of packets. Consider queuing systems as RED for B1,SFQ for B2 and FIFO for B3.



- Queue length of B1and B2 = 1000
- Queue length of B3 = 2000
- Bandwidth of Ti-Bi links = 200 kbps
- Bandwidth of B1-B3 link and B2-B3 link = 500 kbps
- Bandwidth of B3-Ri links = 200 kbps

Simulate the above topology using NS-2 and study the effect of bottleneck bandwidths on inter-arrival time and throughput using the generated trace file.

Write an awk script to find the desired parameters and plot them using **`gnuplot`** for different values of bottleneck bandwidths.

NOTE:

- The assignment must be mailed to dslab2013.iitd@gmail.com
- Submission deadline is 5 PM
- Submit a zip file named assignno_entryno having 2 folders:
  1. CODE: Suitable files associated with the assignment.
  2. DOCUMENTATION: .pdf and .tex file of your report.

Copying is counter-productive and will be penalized.