

## Computer Networks

### Lab 5 Assignment

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#### Task 1: Implementation of Go-Back-N ARQ (network = “layerNetworkGBN”)

- 1) Implement following functionality in the behavioural design of data-link layer (named “dl\_layer\_GBN”) of nodes  
(Hint: use *vector* (<http://www.cplusplus.com/reference/vector/vector/>) data-structure to define sliding window)
  - a. 10% frame loss
  - b. Propagation delay 'D<sub>p</sub>' (value to be specified in omnetpp.ini file)
  - c. Processing delay 'D<sub>pr</sub>' (value to be specified in omnetpp.ini file)
  - d. Window size 'k' (value to be specified in omnetpp.ini file)
  - e. Send in order 26 packets, each packet contains a single English alphabet (A-Z)
- 2) Collect data for performance parameters
  - a. Number of packets sent
  - b. Delay of each packet
  - c. RTT
- 3) Visualize (plot) following parameter (with min, max, and average information)
  - a. Delay of packets
  - b. RTT