Indian Institute of Technology Roorkee

Department of Computer Science and Engineering

CSN-361: Computer Networks Laboratory (Autumn 2019-2020)

Lab Assignment-5 (L5) **Date: August 29, 2019** **Duration: 3 Weeks**

General Instructions:

1. Every Lab Assignment will be performed by the students individually**.** No group formation is required and the evaluations will be done every week for the students individually**.**

Submission and Evaluation Instructions:

1. **Submit your** zipped folder (**<filename>.zip** or **<filename>.tar.gz**) through your account in Moodle through the submission link for this Lab Assignment in Moodle course site: https://moodle.iitr.ac.in/course/view.php?id=47
2. **Hard deadline for Final submission in Moodle: September 19, 2019 (9:00 am Indian Time).** For any submission after Final Deadline, 20% marks will be deducted (irrespective of it is delayed by a few seconds or a few days). The key to success is starting early. You can always take a break, if you finish early.
3. The submitted zipped folder (**<filename>.zip** or **<filename>.tar.gz**) must contain the following:
   (a) The source code files in a folder.
   (b) A report file (**<filename>.DOC** or **<filename>.PDF**) should contain the details like:
      i. Title page with details of the student
      ii. Problem statements
      iii. Algorithms and data structures used in the implementation
      iv. Snapshots of running the codes for each of the problems
4. The submission by each student will be checked with others' submission to identify any copy case (using such detection software). If we detect that the code submitted by a student is a copy (partially or fully) of other's code, then the total marks obtained by one student will be divided by the total number of students sharing the same code.

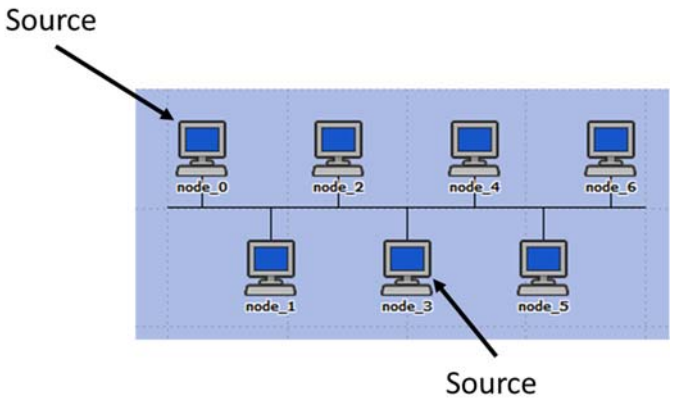
Instructions for L5:

1. Objective of this Lab Assignment L5 is to make the students familiar with the hardware and software aspects of computer networking.
2. The student will have to demonstrate and explain the coding done for this Lab Assignment L5 in the next laboratory class to be held on **September 26, 2019** for evaluation**.**

Problem Statement 1:

Using OPNET create **Bus** topology among a set of *N* computer nodes out of which two nodes are source and the rest are sink nodes.

Model the traffic of source and sink nodes individually and demonstrate the packet transfer between them using Ethcoax (Ethernet using coaxial) cables. Use network scale as the “campus” of area 1km x 1km.

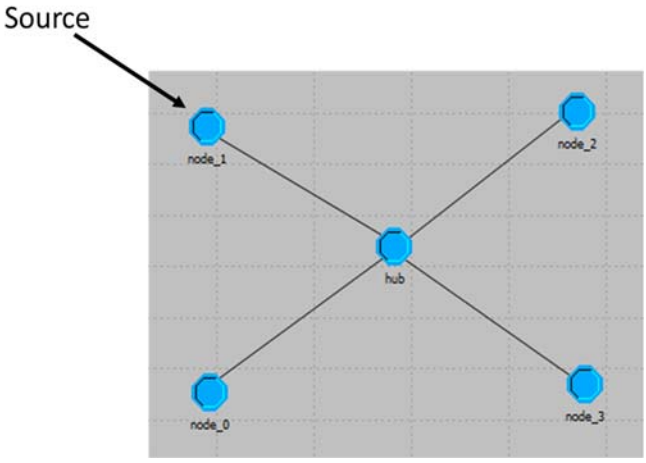


Bus Topology

Problem Statement 2:

Using OPNET create **Star** topology among a set of *N* computer nodes out of which one node is source and the rest are sink nodes.

Model the traffic of source and sink nodes individually and demonstrate the packet transfer between them using Ethcoax (Ethernet using coaxial) cables. Use network scale as the “campus” of area 1km x 1km.



Star Topology
