The LNM Institute of Information Technology, Jaipur
Computer Networks Lab
Lab Assignment 4

Objective: Create a Two Node Network simulation environment using the OMNeT++ simulation library and framework.

Task 1:

1. Start OMNeT++ IDE using "omnetpp" command.
2. Create the workspace named "workspace" in the home directory.
3. Switch to your workspace and do not install "INET framework" and "sample".
4. Create new "OMNeT++ project". Give it the name as "lab1".

Task 2: Creation of Simulation Environment

1. **Network Design:**
    a. Create a computing node. Name is as "node".
    b. Create a network named "twoNode") with two instances of computing nodes

    ### [Node1] ←→ [Node2]

    c. Create message (type is "packet" and name is "N_PDU") with four fields: Id, Type of message (Data or Ack), Source Address and Destination Address.

2. **Behavioural Design: Data Transfer**
    a. Node1 sends "Data" messages to Node2. Node2 receives this message and sends back "Ack" message to Node1.

        e.g.

	[Node1]	←→	[Node2]
t1	"Data" → (send)		
t2			"Data" (receive)
t3			←"Ack" (send)
t4	"Ack" (receive)		

    b. Node1 sends 10 "Data" messages with id 1 to 10 to Node2. Node2 receives each "Data" message and sends back "Ack" message with same id as that of received "Data" message id to the Node1. After receiving "Ack" message, Node1 sends the next message.

Goal:

1. The students must have basic understanding of creating the simulation environment of OMNeT++.
2. The students must learn about the creation of a small network on OMNeT++.

Submission Instructions: Submit the code as a zip file named "rollno.zip". No other form of submission will be accepted for the evaluation.