EE3204 / EE3204E Computer Communication Networks I (Part 1)
Socket Programming Assignment (Sem1, 2016-17)
Assessment Details

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Instructions:

This lab assignment focuses on implementing a client server socket program with TCP transport protocol for transferring messages using a flow control protocol with and without errors. Problems 1-3 are for your practice. Problem 4 is the assignment problem. Choose appropriate values for parameters such as data unit size and error probability. You can simulate errors according to the frame error probability. You are free to implement the ARQ in your own way, but with stop-and-wait. For example, you may want to avoid TIMEOUTs and handle retransmissions in some other way (you may want to choose negative acknowledgement). Repeat the experiment several times and plot the average values in a report with a brief description of results, assumptions made, etc.

The details of demo schedule (date/time) for individual students will be announced separately. There will be two lab sessions. The first session is a contact/practice session (likely to be in week 8) wherein you will practice the sample programs provided. You will also have an opportunity to meet the GA (graduate assistant) during the lab session to clarify your doubts, if any. The second session (likely to be in week 12) is a demo session when you demonstrate the working of your program, submit the report, and answer queries posed by the GA. For B.Tech. EE3204E students the groups and second lab session (demo session) are announced by B.Tech. office.

You are required to carry out work more independently. Copying from others is a serious issue which will result in heavy penalty.

- Your lab assignment work will be assessed based on the following.
    - Does data transfer takes place?
    - Understanding of basic socket programming tool/functions
    - Implementation of the flow control protocol/ARQ
    - Selection of parameter values
    - Performance trend of the experimental results
    - Interpretation of the performance trend
- Suggest to do the following and be ready before you come for demo
    - Run your programs and tabulate/plot the performance results offline (before coming for demo).
    - As stated in “Instructions” above, prepare a short report.
    - Please note that this report need not be formal. The report is not graded. It just helps you as a supporting document during demo.
- During the Demo session
    - Demonstrate the working of your program for a few parameter values
    - Answer the questions asked by the GA
    - Show the report of tables/figures showing the performance results and explain the trend with reasons for such behaviour

[ALL THE BEST]