

Lab Tutorial #3

Computer Networks - II

Date: 28/01/2018

1. Implement an application layer reliable file transfer protocol using Stop and Wait ARQ in C/C++. Use underlying UDP protocol for sending the application layer messages. (10 Points)
 - a. Create appropriate headers for your protocol such as sequence number, checksum, ACK, file size, etc. You can decide based the header based on your protocol design.
 - b. Split the file into fixed size segments (except the last one) and append the header before sending.
 - c. Use timer to resend the packet if the ACK is not received within specific time.
2. Test your protocol by transferring a large file using the developed file transfer protocol. (5 Points)
 - a. Create artificial delay and losses using tc command in linux to study the performance of the developed protocol.
 - b. Study the effect of random delay (varying the average delay below and above the timeout value) and loss rate on the time taken to transfer the file.