LAB Experiments

1. Develop a client server program using TCP IP socket where the client sends a file name, and the server respond with a file content if available
2. Implement a client server program using UDP where the client sends a message and the server responds with a message after processing the input.
3. Implementation of CRC error detection. Explore CRC-CCITT algorithm for implementation and testing for robust data integrity in communication and storage systems.
4. Client Server program for Checksum verification of IP datagram.
5. Given a large IP packet that need to be transmitted across a network with various link having different MTU. Implement an algorithm efficiently fragment the packet into small fragment and provide a mechanism for the assembly as a destination
6. Develop client server application for ICMP Communication with User-Defined Data and Checksum Verification.
7. Network Debugging Tools Execute the following network debugging tools with syntax & purpose:
   1)Ping
   2)Traceroute
   3)netstat/ss
   4)mtr
   5)ifconfig
   6)tcpdump
   7)nslookup
   8)nmap
   9)telnet

Lab Exam Instructions

- **Program Submission**: Please ensure that all your programs are uploaded to your drive link prior to the lab exam.
- **Datasheets**: You are required to bring all necessary datasheets for the lab exam.
- **Exam Schedule**: The lab exam will be conducted on **17th December** from **8:45 AM to 10:55 AM**. All candidates must be present at **CRD508 by 8:35 AM**.

  Batch Timing:

  - **First Batch (1MS22CY001 - 1MS22CY045)**: 8:45 AM - 9:45 AM
  - **Second Batch (1MS22CY046 - 1MS23CY406)**: 9:45 AM - 10:55 AM
- **Malpractice Policy**: Any form of malpractice will be treated with utmost seriousness and will result in a **zero** for the exam.
- **Program Change Policy**: Changing the program during the exam is **discouraged**. A reduction in marks will be applied if a program change is made.

Best of luck, and please come fully prepared