Lab – 2

Part 4- task 1

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| **Category** | **TCP or UDP** | **Reasons** |
| **Reliability and Connection Establishment** | TCP | TCP is connection-oriented and ensures reliable data transmission by establishing a connection before data transfer. It also uses error-checking and acknowledgment mechanisms. |
| **Data Integrity and Ordering** | TCP | TCP ensures that data packets arrive in the correct order and without errors by using sequence numbers and retransmitting lost packets if necessary. |

Part 4- task 2

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| **Category** | **TCP** | **UDP** |
| **Use cases** | File transfers (e.g., FTP), web browsing (HTTP/HTTPS), email (SMTP/IMAP/POP3), database services (MySQL) | Real-time applications like video streaming, VoIP, online gaming, DNS lookups, broadcasting |
| **Performance** | Slower due to connection establishment, error checking, and acknowledgment processes, but provides reliable data delivery | Faster because it is connectionless with no error-checking, making it suitable for time-sensitive applications |