**Task 1: Fill in the following table and provide reasons.**

|  | **TCP or UDP** | **Reasons** |
| --- | --- | --- |
| Reliability and Connection Establishment | TCP | TCP is connection-oriented and ensures reliable data transfer using acknowledgments and retransmissions. UDP, on the other hand, is connectionless and does not guarantee delivery. |
| Data Integrity and Ordering | TCP | TCP ensures that data is received in the correct order and without errors using sequence numbers and error checking. UDP does not provide such guarantees, making it faster but less reliable. |

**Task 2: Identify the use Cases and Performance of TCP and UDP.**

|  | **TCP** | **UDP** |
| --- | --- | --- |
| Use cases | -Web browsing (HTTP/HTTPS)  - File transfer (FTP)  - Email (SMTP, IMAP, POP3)  - Secure communications (SSH, VPN) | - Live streaming  - Online gaming  - VoIP (Voice over IP)  - DNS queries |
| Performance | Reliable but slower due to error checking, acknowledgments, and retransmissions. | Faster due to the absence of connection establishment, error checking, and retransmissions, but less reliable. |