**Task 3**

1. **Private vs. Public IP:**
   * **Private IP:** Used within private networks (e.g., home, office). Not routable on the internet. Range: 10.x.x.x, 172.16.x.x - 172.31.x.x, 192.168.x.x.
   * **Public IP:** Used on the internet. Unique globally, routable, and assigned by ISPs.
2. **IPv4 vs. IPv6:**
   * **IPv4:** 32-bit address, ~4.3 billion unique addresses. Format: 192.168.1.1. Uses NAT for address conservation.
   * **IPv6:** 128-bit address, virtually unlimited addresses. Format: 2001:0db8:85a3::8a2e:0370:7334. No NAT needed, built-in security (IPsec).
3. **TCP vs. UDP:**
   * **TCP:** Connection-oriented, reliable, ensures data delivery in order. Slower due to error-checking and retransmission. Used for web browsing, email, file transfer.
   * **UDP:** Connectionless, faster, no guarantee of delivery or order. Used for streaming, gaming, VoIP.