CSN 341 - Assignment 2

1. Explore the mechanisms through which a new peer like Alice in a BitTorrent network acquires her first chunk. Discuss the fairness and efficiency of these mechanisms, and consider how different scenarios (e.g., network congestion, peer availability) might affect Alice's experience.
2. Evaluate the challenges and limitations of using POP3 for email access across multiple devices, particularly with the "download and keep" strategy. Propose potential solutions or alternative protocols that could mitigate these challenges, and justify your recommendations.
3. Discuss the role of SSL in the TCP/IP stack and its implications for application developers who wish to enhance TCP with SSL. Consider the steps a developer must take, and the potential trade-offs involved in implementing SSL at different layers.
4. Examine the process by which non-persistent HTTP connections signal the end of a message to the TCP protocol. Discuss how this mechanism affects the performance and reliability of web communications, and compare it with persistent HTTP connections.