

## CSN 341 - Assignment 3

1. Analyze how DNS caching works and discuss its potential benefits and drawbacks on network performance, particularly in large-scale systems. Include real-world examples or case studies to support your explanation.
2. Compare and contrast HTTP and FTP in the context of file retrieval. Discuss scenarios where each protocol is preferable, taking into account factors like security, speed, ease of use, and typical use cases. Support your discussion with specific examples and justify your choices.
3. Explore the role of cookies in web applications, focusing on both their benefits and privacy concerns. How have recent regulations, such as GDPR, influenced the way cookies are used? Suggest best practices for developers to balance functionality and user privacy.
4. Analyze the Simple Mail Transfer Protocol (SMTP) in the context of email security. What vulnerabilities are inherent in SMTP, and what additional protocols or practices are used to secure email communications? Discuss the balance between security and ease of use in email systems.