

# ITBU 443: Threats and Counter Measures, Homework 05

## Chapter 05, *Computer Security, Principles and Practices*

### Readings

Read chapter 05 in the *Computer Security, Principles and Practices* book.

### Discussion Questions

Answer the discussion questions in writing.

1. The term *database* can refer either to a piece of software, or a compilation of data. An example of the first is ‘Microsoft SQL Server database.’ An example of the second is ‘the human resources database.’ All computer applications process data in some form. Can you think of any computer application that does not process data? If so, what is it? In some ways, the concept of data processing underlies the entire field of computer science, or information technology.
2. What is a *SQL injection attack*? How is it made?
3. What are some goals of a SQL injection attack?
4. Describe inband attacks, inferential attacks, and out-of-band attacks.
5. List some of the defenses against SQL injection attacks.
6. GRANT and REVOKE are part of DCL (data control language). What are these commands used for? See <https://www.postgresql.org/docs/current/sql-grant.html> for the documentation of GRANT.
7. Explain the concept of *cascading authorizations*.
8. How can an inference attack lead to a breach of confidentiality?
9. What are the disadvantages of database encryption?