

MIS2502: Exam 2 Study Guide

The exam will be a combination of multiple-choice and short-answer questions. It is a closed-book, closed-notes exam. You will not be able to use a computer during the exam. The following is a list of items that you should review in preparation for the exam. Note that not every item on this list may be on the exam, and there may be items on the exam not on this list.

SQL (Joins, Subselects, CREATE, ALTER, INSERT, UPDATE, and DELETE)

- Given the schema of a database, be able to create the SQL statements that will
 - Construct a query that requires a join of multiple tables
 - Construct a query that contains a subselect
(i.e., determine the customers with the highest sales)
 - Create a table based on a list of its metadata using CREATE TABLE
 - Change the structure of a table using ALTER TABLE
 - Add a record to a table using INSERT
 - Update an existing record in a table using UPDATE
 - Delete a record from a table using DELETE
- Be familiar with using conditional statements in the UPDATE and DELETE statements
- Be familiar with MySQL data types (INT, DECIMAL, BOOL, DATE, VARCHAR, etc.)
- Identify how to add records to a table created from a many-to-many relationship so that the new record associates two existing records in the associated tables
(i.e., add a record to a film-actor table that associates a particular film with a particular actor)

ETL

- What is it? Why is it important?
- Explain the purpose of each component (Extract, Transform, Load) in combining data sets
- The problems with using data from legacy systems
- How do inconsistencies in data get resolved?
- Tableau Prep
 - How does it perform the extract, transform, and load operations?
 - Major operations – splitting values, joining tables, calculated fields, grouping data

Semi-Structured Data

- What is semi-structured data? Examples? What does it mean to have no formal data model?
- What is unstructured data? Examples?
- Compare csv, XML, and JSON data formats and explain advantages/disadvantages of each
- Construct a csv, XML, and JSON data file from raw data
- Construct a structured data table from a csv, XML, or JSON file
- Explain how applications exchange data using semi-structured data

MORE ON PAGE 2...

And don't forget...

- ERDs, including cardinality, entities, and attributes
- Basic SQL, including GROUP BY, ORDER BY, WHERE, and functions
- The difference between a transactional database and an analytical data store