SQL Queries - Chapter 3
Quiz

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Question 1

Answer: B

Explanation: Projection, which allows us to select specific columns in our SQL table, is the only one which can be executed using only the SELECT & FROM clauses.
Question 2

Answer: A

Explanation: Selection is the only relational operation in our given choices that requires an additional clause (in this case, it is the WHERE clause)

The simple syntax for:

+) Natural join: SELECT <columns> FROM table1 NATURAL JOIN table2

+) Cross product: SELECT <columns> FROM table1 JOIN table2
Question 3

Answer: D

Explanation: The GROUP BY clause is only needed for ordering the data in a specific manner. Since Natural Join does not require any specific order of the data, we do not need the GROUP BY clause to execute a Natural Join operation.
Answer: C

Explanation:
The GROUP BY clause only includes the column that the aggregation is based on. So, it does not have to include all the columns listed in SELECT clause.

Example: SELECT StdID, AVG(CrsGPA) AS AvgGPA
FROM Students
GROUP BY StdID
Question 5

Answer: C

Explanation: SQL does not necessarily require us to have a primary key in all of the tables that we make. As such, we can create multiple tables that are not relational since without a PK we can have rows that can be duplicates/identical copies of one another. This will make our tables non-relational.
Question 6

Answer: The conceptual evaluation process gives us a model that aids us in the development process of our queries. The model on the next slide shows this process and help us in determining the structure of our queries. Some of the key highlights of what we should follow are:

- Row operations before group operations
- FROM and WHERE before GROUP BY and HAVING
- Check row operations first
- Grouping occurs only one time
- Use small sample tables
Query Formulation Process:

1. Problem Statement
2. Database Representation
3. Database Language Statement