**TSQL Homework 06**

**Question 1**

What does a set operator do?

**Answer**

Set operators combine the results of two component queries into a single result. Queries containing set operators are called compound queries.

**Question 2**

What are the general requirements of a set operator?

**Answer**

The number and the order column. The data types of the corresponding columns must be the same or similar.

**Question 3**

What is a Venn Diagram? This is not in the book.

**Answer**

A Venn Diagram is a diagram that shows all possible logical relations between a finite collection of different sets. These diagrams depict elements as points in the plane and sets as regions inside closed curves.

**Question 4**

Draw a Venn Diagram of the UNION operator. What does it do?

**Answer**

The UNION operator unifies the results of two input queries. If a row appears in any of the input sets, it will appear in the result of the UNION operator.

**Question 5**

Draw a Venn Diagram of the UNION ALL operator. What does it do?

**Answer**

The UNION ALL operator unifies the two input query results without attempting to remove duplicates from the result.

**Question 6**

Draw a Venn Diagram of the INTERSECT operator. What does it do?

**Answer**

The INTERSECT operator returns only the rows that are common to the results of the two input queries.

**Question 7**

If SQL Server supported the INTERSECT ALL operator, what would it do?

**Answer**

The INTERSECT ALL operator means that duplicate intersections will not be removed. INTERSECT ALL returns the number of duplicate rows matching the lower of the counts in both input multisets.

**Question 8**

Draw a Venn Diagram of the EXCEPT operator. What does it do?

**Answer**

The EXCEPT operator implements set differences. It operates on the result of two input queries and returns rows that appear in the first input but not the second.

**Question 9**

If SQL Server supported the EXCEPT ALL operator, what would it do?

**Answer**

The EXCEPT ALL operator is similar to the EXCEPT operator, but it also takes into account the number of occurrences of each row.

(A UNION B)

EXCEPT

(A EXCEPT B)

(A EXCEPT B)

UNION

(B EXCEPT A)

**Question 10**

What is the precedence of the set operators?

**Answer**

SQL defines precedence among set operators. The INTERSECT operator precedes UNION and EXCEPT, and UNION and EXCEPT are evaluated in order of appearance. Using the ALL variant doesn’t change the precedence. In a query that contains multiple set operators, first INTERSECT operators are evaluated, and then operators with the same precedence are evaluated based on their order of appearance.

**Question 11**

The symmetric difference of two sets A and B is all elements in A that are also not in A and B, and all elements of B that are also not in A and B. For example, if set A consisted of all integers between 1 and 100 that are divisible by 2, and set B consisted of all integers between 1 and 100 that are divisible by 3, the symmetric difference of A and B would include all integers in A and B except integers divisible by both 2 and 3, e.g., 6, 12, 18, etc. Write a SQL query that computes the symmetric difference of two tables A and B.

**Answer**

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