

Topics

HQ_10_1

Which of the following is true?

✓ None

✗ Cost-based optimization is guaranteed to provide the cheapest or most efficient query plan.

✗ Rule-based optimization is guaranteed to provide the cheapest or most efficient query plan.

✗ A cost-based query optimizer always returns the same plan for a given query irrespective of the data.

HQ_10_2

The commutative law of an operator states that we can group two uses of the operator either from the left or the right.

✓ False

✗ True

HQ_10_3

Which of the following is not a commutative operation?

✓ None

✗ Union

✗ Intersection

✗ Join

✗ Product

HQ_10_4

An algebraic identity (law) is true if and only if a tuple satisfying the left expression of the identity also satisfies the right expression of the identity.

✓ False

✗ True

HQ_10_5

Which of the following identity is false?

✓ Second identity

✗ First identity

✗ Third identity

✗ None

HQ_10_6

Which of the following is false?

✓ All

✗ A projection operation can reduce the number of tuples.

✗ A selection operation always reduces the number of tuples.

✗ Predicate pushdown always reduces cost.

HQ_10_7

A join operation involving 6 tables has 720 possible right deep join trees.

✓ True

✗ False

HQ_10_8

Given $T(A) = 1000$, $T(B) = 2000$, $T(C) = 3000$, which of the following queries is likely to generate fewer tuples compared to others? Assume independent and uniform distribution for all attributes in all relations.

✓ `SELECT A.x FROM A WHERE x = x1`

✗ `SELECT A.x, B.y FROM A, B WHERE x = x1 AND y = y1`

✗ `SELECT A.x, B.y, C.z FROM A, B, C WHERE x=x1 AND y = y1 AND z = z1`

HQ_10_9

The cost of the table-scan algorithm coupled with a filter step is $T(R)$, if R is clustered.

✓ False

✗ True

HQ_10_10

The selection operation can not be pipelined.

✓ False

✗ True
