Query

Q.1 Consider an external merge sort algorithm for a relation having 3010 blocks.

If the available memory is 15, find the total number of block transfers required.

Max. score: 3; Neg. score: 0; Your score:

Your answer:

12000

Q.2 If there are two select conditions (with an OR) on a single expression, the order of application of select conditions does not matter.

Max. score: 3; Neg. score: 1; Your score:

- ■ This is always true.
- ☐ This is true only if the select conditions are independent.
- ☐ This is true only when the select conditions involve the same set of attributes.

Q.3 A projection on a natural join of two relation expressions is equivalent to first taking the projections and then doing the natural join.

Max. score: 3; Neg. score: 1; Your score:

- ☐ This is always true.
- ☐ This is always true if only one copy of the repeated attributes are considered.
- ■ This depends on the specific projection attributes.

Q.4 Consider a binary operator X on relation expressions.

Consider a selection on the result of applying X on two relations.

This result is equivalent to first applying the selection on the individual relations and then applying the operator X on the two resultant expressions.

If this is always true, what are the possible choices for the operator X?

Max. score: 5; Neg. score: 1; Your score:

- ☐ Cartesian product

Set union

Full outer join

Set difference

Score: Will be uploaded after end date.