Which of the following does not represents a authentication mechanism supported by Oracle:

- a. KERBEROS.
- b. RADIUS.
- c. PKI.
- d. DIAMETER.

Multiple criteria in the parameter list are interpreted in a hierarchical manner in:

- a. Both GROUP BY and ORDER BY.
- b. ORDER BY, but not in the GROUP BY.
- c. GROUP BY, but not in the ORDER BY.
- d. Not in GROUP BY or ORDER BY.

The projection list of a SELECT query can contains a table attribute and an SQL aggregation function only if:

- a. The attribute is included in the HAVING clause.
- b. The attribute is included in the GROUP by clause.
- c. The attribute is the primary key.
- d. The attribute is a candidate key.

An SQL aggregation function cannot be used directly in:

- a. A Subquery.
- b. A WHERE clause.
- c. A projection list.
- d. A HAVING clause.

Considering the Harbor database used on the course and the following query:

```
SELECT DISTINCT s.sid, s.name
      FROM Sailors s, Boats b, Reserves r
      WHERE s.sid=r.sid AND r.bid=b.bid AND b.color='Blue' AND
            s.sid IN
               (SELECT s1.sid
                  FROM Sailors s1, Boats b1, Reserves r1
                  WHERE s1.sid=r1.sid AND r1.bid=b1.bid
                        AND b1.color='Green')
```

which of the following statements is false:

- a. It is a valid SQL query.
- b. The queries are correlated.
- c. The queries are uncorrelated.
- d. The query implements the INTERSECTION operation.

Considering the following Sailors table:

sid	*sname*	*rating*	*age*
22	Dustin	7	45.0
29	Brutus	1	33.0
31	Lubber	8	55.5
32	Andy	8	25.5
58	Rusty	10	35.0
64	Horatio	7	35.0
71	Zorba	10	16.0
74	Horatio	9	35.0
85	Art	3	25.5
95	Bob	3	63.5

What result will return the following query:
SELECT rank FROM Sailors WHERE rank > ALL (SELECT rank FROM Sailors);

- a. 10
- b. empty result
- c. 0
- d. NULL

For a table containing a single row with all attributes excepting PK containing NULL values, the SELECT COUNT(*) FROM Table;
will return:

- a. 0
- b. NULL
- c. 1
- d. nothing

To be union compatible two relations must have:

- a. The same name for the primary key.
- b. The same attributes, with the same names and types, in the same order.
- c. The same set of indexes.
- d. The same number of attributes with corresponding types in the same order.

The full join operation can be implemented using the following operator:

- a. EXCEPT
- b. UNION
- c. INTERSECTION
- d. DIFFERENCE

To be union compatible two relations must have:

- a. The same number of attributes with corresponding types in the same order.
- b. The same name for the primary key.
- c. The same attributes, with the same names and types, in the same order.
- d. The same set of indexes.

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- a. The attribute is included in the HAVING clause.
- b. The attribute is included in the GROUP by clause.
- c. The attribute is the primary key.
- d. The attribute is a candidate key.

A tree index on the key <x1, x2, x3, x4> cannot be used to match the selection:

- a. x3 = 7
- b. x1= 6 and x2 = 9 and x3 = 2 and x4 = 25
- c. x1 = 5 and x2 > 5
- d. x1 = 3

sid	*sname*	*rating*	*age*
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What result will return the following query:
SELECT rank FROM Sailors WHERE rank > ALL (SELECT rank FROM Sailors);

- a. 10
- b. NULL
- c. empty result
- d. 0

Considering the Harbor database used on the course, and the following query:

```
SELECT sid, Sailors.rank FROM Sailors WHERE
 age > (SELECT s.age
          FROM Sailors s INNER JOIN
               Reserves r ON s.sid=r.sid
         WHERE r.bid=103  AND
                  r.date>'2014-11-23')
```

which clause of the query contain errors:

- a. The projection list of the main query.
- b. The WHERE clause of the main query.
- c. The WHERE clause of the subquery.
- d. Neither clause, it is a valid query.

A subquery used as operand of the IN operator must return:

- a. A single scalar value.
- b. A tuple.
- c. A set of scalar values.
- d. A set of tuples.

The full join operation can be implemented using the following operator:

- a. DIFFERENCE
- b. EXCEPT
- c. UNION
- d. INTERSECTION

An SQL aggregation function cannot be used directly in:

- a. A projection list.
- b. A HAVING clause.
- c. A Subquery.
- d. A WHERE clause.

Which of the following does not represents a authentication mechanism supported by Oracle:

- a. RADIUS.
- b. KERBEROS.
- c. DIAMETER.
- d. PKI.

Multiple criteria in the parameter list are interpreted in a hierarchical manner in:

- a. GROUP BY, but not in the ORDER BY.
- b. ORDER BY, but not in the GROUP BY.
- c. Not in GROUP BY or ORDER BY.
- d. Both GROUP BY and ORDER BY.

The DISTINCT parameter will not have any effect for just one of the following SQL aggregation functions:

- a. VARIANCE
- b. SUM
- c. MAX
- d. AVG

The projection list of a SELECT query can contains a table attribute and an SQL aggregation function only if:

- a. The attribute is included in the HAVING clause.
- b. The attribute is included in the GROUP by clause.
- c. The attribute is a candidate key.
- d. The attribute is the primary key.

A hash index on the key <x1, x2, x3, x4> can be used to match the selection:

- a. x3 = 7
- b. x1 = 5 and x2 > 5
- c. x1= 6 and x2 = 9 and x3 = 2 and x4 = 25
- d. x1 = 3

An SQL aggregation function cannot be used directly in:

- a. A Subquery.
- b. A WHERE clause.
- c. A projection list.
- d. A HAVING clause.

Considering the following Sailors table:

sid	*sname*	*rating*	*age*
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64	Horatio	7	35.0
71	Zorba	10	16.0
74	Horatio	9	35.0
85	Art	3	25.5
95	Bob	3	63.5

What result will return the following query:

```
SELECT s.name FROM Sailors s
  WHERE NOT EXISTS (SELECT * FROM Sailors s1 WHERE s1.rank < s.rank)
```

- a. Rusty, Zorba
- b. all sailors' names
- c. empty result
- d. Brutus

To be union compatible two relations must have:

- a. The same attributes, with the same names and types, in the same order.
- b. The same number of attributes with corresponding types in the same order.
- c. The same set of indexes.
- d. The same name for the primary key.

The cost of the query execution plan is not depending on:

- a. The tuple sizes of the input relations.
- b. The number of attributes of the input relations.
- c. The cardinality of the input relations.
- d. The sizes of the relations representing intermediary results.

Considering the Harbor database used on the course and the following query:

```
SELECT DISTINCT s.sid, s.name
      FROM Sailors s, Boats b, Reserves r
      WHERE s.sid=r.sid AND r.bid=b.bid AND b.color='Blue' AND
            s.sid IN
               (SELECT s1.sid
                  FROM Sailors s1, Boats b1, Reserves r1
                  WHERE s1.sid=r1.sid AND r1.bid=b1.bid
                        AND b1.color='Green')
```

which of the following statements is false:

- a. The queries are uncorrelated.
- b. The queries are correlated.
- c. It is a valid SQL query.
- d. The query implements the INTERSECTION operation.

Which of the following does not represents a authentication mechanism supported by Oracle:

- a. RADIUS.
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Considering the following Sailors table:

sid	*sname*	*rating*	*age*
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64	Horatio	7	35.0
71	Zorba	10	16.0
74	Horatio	9	35.0
85	Art	3	25.5
95	Bob	3	63.5

What result will return the following query:
SELECT rank FROM Sailors WHERE rank > ALL (SELECT rank FROM Sailors):

- a. 0
- b. 10
- c. NULL
- d. empty result

A subquery used as operand of the IN operator must return:

- a. A single scalar value.
- b. A set of tuples.
- c. A tuple.
- d. A set of scalar values.

Considering the Harbor database used on the course, and the following query:

```
SELECT sid, Sailors.rank FROM Sailors WHERE
  age > (SELECT s.age
           FROM Sailors s INNER JOIN
                 Reserves r ON s.sid=r.sid
          WHERE r.bid=103  AND
                      r.date>"2014-11-23")
```

which clause of the query contain errors:

- a. The WHERE clause of the main query.
- b. The WHERE clause of the subquery.
- c. Neither clause, it is a valid query.
- d. The projection list of the main query.

Which of the following statements is not true about subqueries?

- a. A subquery can be included in a FROM clause.
- b. A subquery can be included in a projection list.
- c. A subquery can be included in a ORDER BY clause.
- d. A subquery can be included in a WHERE clause.

The DISTINCT parameter will not have any effect for just one of the following SQL aggregation functions:

- a. SUM
- b. AVG
- c. VARIANCE
- d. MAX

A tree index on the key <x1, x2, x3, x4> cannot be used to match the selection:

- a. x3 = 7
- b. x1= 6 and x2 = 9 and x3 = 2 and x4 = 25
- c. x1 = 5 and x2 > 5
- d. x1 = 3

The cost of the query execution plan is not depending on:

- a. The tuple sizes of the input relations.
- b. The number of attributes of the input relations.
- c. The cardinality of the input relations.
- d. The sizes of the relations representing intermediary results.

A tree index on the key <x1, x2, x3, x4> cannot be used to match the selection:

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b. The number of attributes of the input relations.

c. The cardinality of the input relations.

d. The sizes of the relations representing intermediary results.

The projection list of a SELECT query can contains a table attribute and an SQL aggregation function only if:

a. The attribute is a candidate key.

b. The attribute is included in the HAVING clause.

c. The attribute is included in the GROUP by clause.

d. The attribute is the primary key.

To be union compatible two relations must have:

a. The same set of indexes.

b. The same attributes, with the same names and types, in the same order.

c. The same number of attributes with corresponding types in the same order.

d. The same name for the primary key.

Considering the following Sailors table:

sid	*sname*	*rating*	*age*
22	Dustin	7	45.0
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What result will return the following query:

```
SELECT s.name FROM Sailors s
   WHERE NOT EXISTS (SELECT * FROM Sailors s1 WHERE s1.rank < s.rank)
```

- a. all sailors' names
- b. Rusty, Zorba
- c. empty result
- d. Brutus

A tree index on the key <x1, x2, x3, x4> cannot be used to match the selection:

- a. x1 = 5 and x2 > 5
- b. x3 = 7
- c. x1= 6 and x2 = 9 and x3 = 2 and x4 = 25
- d. x1 = 3

Considering the Harbor database used on the course, and the following query:

```
SELECT sid, Sailors.rank FROM Sailors WHERE
  age > (SELECT s.age
           FROM Sailors s INNER JOIN
                Reserves r ON s.sid=r.sid
          WHERE r.bid=103  AND
                r.date>'2014-11-23')
```

which clause of the query contain errors:

- a. Neither clause, it is a valid query.
- b. The WHERE clause of the subquery.
- c. The projection list of the main query.
- d. The WHERE clause of the main query.

For a table containing a single row with all attributes excepting PK containing NULL values, the
SELECT COUNT(*) FROM Table;
will return:

- a. nothing
- b. 1
- c. NULL
- d. 0

The projection list of a SELECT query can contains a table attribute and an SQL aggregation function only if:

- a. The attribute is included in the GROUP by clause.
- b. The attribute is a candidate key.
- c. The attribute is the primary key.
- d. The attribute is included in the HAVING clause.

Which of the following does not represents a authentication mechanism supported by Oracle:

- a. PKI.
- b. DIAMETER.
- c. KERBEROS.
- d. RADIUS.

An SQL aggregation function cannot be used directly in:

- a. A HAVING clause.
- b. A Subquery.
- c. A WHERE clause.
- d. A projection list.

The DISTINCT parameter will not have any effect for just one of the following SQL aggregation functions:

- a. SUM
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Considering the following Sailors table:

sid	*sname*	*rating*	*age*
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What result will return the following query:

```
SELECT s.name FROM Sailors s
   WHERE NOT EXISTS (SELECT * FROM Sailors s1 WHERE s1.rank < s.rank)
```

- a. all sailors' names
- b. empty result
- c. Rusty, Zorba
- d. Brutus

A tree index on the key <x1, x2, x3, x4> cannot be used to match the selection:

- a. x1= 6 and x2 = 9 and x3 = 2 and x4 = 25
- b. x3 = 7
- c. x1 = 3
- d. x1 = 5 and x2 > 5

The full join operation can be implemented using the following operator:

- a. INTERSECTION
- b. EXCEPT
- c. UNION
- d. DIFFERENCE

A hash index on the key <x1, x2, x3, x4> can be used to match the selection:

- a. x1 = 3
- b. x1 = 5 and x2 > 5
- c. x3 = 7
- d. x1= 6 and x2 = 9 and x3 = 2 and x4 = 25

An SQL aggregation function cannot be used directly in:

- a. A Subquery.
- b. A WHERE clause.
- c. A HAVING clause.
- d. A projection list.

Considering the Harbor database used on the course and the following query:

```
SELECT DISTINCT s.sid, s.name
      FROM Sailors s, Boats b, Reserves r
      WHERE s.sid=r.sid AND r.bid=b.bid AND b.color='Blue' AND
            s.sid IN
               (SELECT s1.sid
                 FROM Sailors s1, Boats b1, Reserves r1
                 WHERE s1.sid=r1.sid AND r1.bid=b1.bid
                           AND b1.color='Green')
```

which of the following statements is false:

- a. The queries are correlated.
- b. The query implements the INTERSECTION operation.
- c. It is a valid SQL query.
- d. The queries are uncorrelated.

To be union compatible two relations must have:

- a. The same name for the primary key.
- b. The same attributes, with the same names and types, in the same order.
- c. The same number of attributes with corresponding types in the same order.
- d. The same set of indexes.

Multiple criteria in the parameter list are interpreted in a hierarchical manner in:

- a. Not in GROUP BY or ORDER BY.
- b. GROUP BY, but not in the ORDER BY.
- c. ORDER BY, but not in the GROUP BY.
- d. Both GROUP BY and ORDER BY.

Which of the following does not represents a authentication mechanism supported by Oracle:

- a. RADIUS.
- b. DIAMETER.
- c. PKI.
- d. KERBEROS.

A hash index on the key <x1, x2, x3, x4> can be used to match the selection:

- a. x1 = 3
- b. x3 = 7
- c. x1 = 5 and x2 > 5
- d. x1= 6 and x2 = 9 and x3 = 2 and x4 = 25

The cost of the query execution plan is not depending on:

- a. The tuple sizes of the input relations.
- b. The cardinality of the input relations.
- c. The sizes of the relations representing intermediary results.
- d. The number of attributes of the input relations.

The full join operation can be implemented using the following operator:

- a. DIFFERENCE
- b. EXCEPT
- c. UNION
- d. INTERSECTION

Considering the following Sailors table:

sid	*sname*	*rating*	*age*
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85	Art	3	25.5
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What result will return the following query:
SELECT rank FROM Sailors WHERE rank > ALL (SELECT rank FROM Sailors);

- a. NULL
- b. empty result
- c. 0
- d. 10

Which of the following statements is not true about subqueries?

- a. A subquery can be included in a ORDER BY clause.
- b. A subquery can be included in a FROM clause.
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Considering the Harbor database used on the course and the following query:

```
SELECT DISTINCT s.sid, s.name
    FROM Sailors s, Boats b, Reserves r
    WHERE s.sid=r.sid AND r.bid=b.bid AND b.color='Blue' AND
        s.sid IN
            (SELECT s1.sid
              FROM Sailors s1, Boats b1, Reserves r1
              WHERE s1.sid=r1.sid AND r1.bid=b1.bid
                    AND b1.color='Green')
```

which of the following statements is false:

- a. The query implements the INTERSECTION operation.
- b. The queries are correlated.
- c. It is a valid SQL query.
- d. The queries are uncorrelated.

A tree index on the key <x1, x2, x3, x4> cannot be used to match the selection:

- a. x1= 6 and x2 = 9 and x3 = 2 and x4 = 25
- b. x1 = 3
- c. x3 = 7
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The full join operation can be implemented using the following operator:

- a. EXCEPT
- b. INTERSECTION
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Which of the following does not represents a authentication mechanism supported by Oracle:

- a. RADIUS.
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The cost of the query execution plan is not depending on:

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Considering the Harbor database used on the course and the following query:

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            (SELECT s1.sid
              FROM Sailors s1, Boats b1, Reserves r1
              WHERE s1.sid=r1.sid AND r1.bid=b1.bid
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```

which of the following statements is false:

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SELECT s.name FROM Sailors s
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- a. all sailors' names
- b. Brutus
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- d. Rusty, Zorba