RDBMS Questions and Answers

1. Choose the correct statement regarding superkeys
    a) A superkey is an attribute or a group of multiple attributes that can uniquely identify a tuple
    b) A superkey is a tuple or a set of multiple tuples that can uniquely identify an attribute
    c) Every superkey is a candidate key
    d) A superkey is an attribute or a set of attributes that distinguish the relation from other relations

2. What is an Instance of a Database?
    a) The logical design of the database system
    b) The entire set of attributes of the Database put together in a single relation
    c) The state of the database system at any given point of time
    d) The initial values inserted into the Database immediately after its creation

3. What is a foreign key?
    a) A foreign key is a primary key of a relation which is an attribute in another relation
    b) A foreign key is a superkey of a relation which is an attribute in more than one other relations
    c) A foreign key is an attribute of a relation that is a primary key of another relation
    d) A foreign key is the primary key of a relation that does not occur anywhere else in the schema

4. An attribute is a _____ in a relation.
    a) Row
    b) Column
    c) Value
    d) Tuple

5. What is the method of specifying a primary key in a schema description?
    a) By writing it in bold letters
    b) By underlining it using a dashed line
    c) By writing it in capital letters
    d) By underlining it using a bold line

6. Statement 1: A tuple is a row in a relation

   Statement 2: Existence of multiple foreign keys in a same relation is possible

    a) Both the statements are true
    b) Statement 1 is correct but Statement 2 is false
    c) Statement 1 is false but Statement 2 is correct
    d) Both the statements are false

7. State true or false: If a relation consists of a foreign key, then it is called a referenced relation of the foreign key dependency.
    a) True
    b) False
8. Which of the following information does an SQL DDL not specify?
    a) The schema for each relation
    b) The integrity constraints
    c) The operations on the tuples
    d) The security and authorization information for each relation

9. Which of the following data types does the SQL standard not support?
    a) char(n)
    b) String(n)
    c) varchar(n)
    d) float(n)

10. What is the syntax to load data into the database? (Consider D as the database and a, b, c as data)
    a) enter into D (a, b, c);
    b) insert into D values (a, b, c);
    c) insert into D (a, b, c);
    d) insert (a, b, c) values into D;

11. Which of the following commands do we use to delete a relation (R) from a database?
    a) drop table R
    b) drop relation R
    c) delete table R
    d) delete from R

12. Which of the following commands do we use to delete all the tuples from a relation (R)?
    a) delete table R
    b) drop table R
    c) delete from R
    d) drop from R

13. Choose the correct command to delete an attribute A from a relation R
    a) alter table R delete A
    b) alter table R drop A
    c) alter table drop A from R
    d) delete A from R

14. create table apartment(ownerID varchar (5), ownername varchar(25), floor numeric(4,0), primary key (ownerID));

    Choose the correct option regarding the above statement

    a) The statement is syntactically wrong
    b) It creates a relation with three attributes ownerID, ownername, floor in which floor cannot be null.
    c) It creates a relation with three attributes ownerID, ownername, floor in which ownerID cannot be null.
    d) It creates a relation with three attributes ownerID, ownername, floor in which ownername must consist of at least 25 characters.

15. What does the notnull integrity constraint do?
    a) It ensures that at least one tuple is present in the relation
    b) It ensures that at least one foreign key is present in the relation
    c) It ensures that all tuples have a finite value on a specified attribute
    d) It ensures that all tuples have finite attributes on all the relations

16. Which of the following syntax of the basic query is correct?

a) select <relation> from <attribute>

b) select <attribute> from <elation>

c) select <tuple> from <relation>

d) select <tuple> from <attribute>

17. Which of the following keywords is used beside the select clause to explicitly specify that duplicates are not removed?

a) all

b) not unique

c) notnull

d) include

18. Which of the following logical connectives is not included in SQL?
    a) and
    b) or
    c) nor
    d) not

19. The where clause is a predicate involving attributes of the relation in the _____ clause.
    a) select
    b) from
    c) with
    d) none of the mentioned

20. select distinct dept_name

from institute;

What does the above query do?

a) It gives all the tuples having a distinct dept_name
b) It gives the dept_name attribute values of all tuples without repetition
c) It gives all the dept_name attribute of all the tuples
d) It gives all the tuples having a null value under the dept_name attribute

21. The _____ clause is used to list the attributes desired in the result of a query
    a) select
    b) from

c) where
d) create

22. If we specify multiple relations in the from clause and do not specify any conditions in the where clause, what will the result be?
    a) The natural join of both the relations
    b) The left outer join of both the relations
    c) A syntactical error
    d) The Cartesian product of both the relations

23. State true or false: Multiple conditions in the where clause are separated by a ","
    a) True
    b) False

24. What does the natural join operation do?
    a) It considers only those pairs of tuples that have the same value on those attributes that appear in the schemas of both relations
    b) It considers only those pairs of tuples that have the same value on at least one of the attributes that appear in the schemas of both the relations
    c) It considers only those pairs of tuples that do not have the same value on those attributes that appear in the schemas of both relations
    d) None of the mentioned

25. Observe the following query and choose the correct option.

select name, ID

from student natural join department natural join section

    a) The query is syntactically wrong because there is no where clause
    b) The query is syntactically wrong because there are more than one attributes in the select clause
    c) The query is syntactically wrong because more than one relations are included in the natural join operation
    d) The query is correct

26. Which keyword is used to rename a relation in a query?
    a) rename
    b) as

c) is
d) to

27. While operating with strings, what does "_ _ _%" match with?
    a) A string of three letters
    b) A string of at least three letters
    c) A string of three words
    d) A string of at least three words
28. What is the function of the union operation?

    a) It combines the results of any two different queries

    b) It combines the results of two different queries which have the same set of attributes in the select clause

    c) It combines the results of two different queries which have the same condition in the where clause

    d) It gives the Cartesian product of the results of any 2 queries

29. What is the function of the intersect operation?

    a) It returns the intersection of the results of the results of any two different queries

    b) It returns the intersection of the results of two different queries which have the same set of attributes in the select clause

    c) It returns the intersection of the results of two different queries which have the same condition in the where clause

    d) None of the mentioned

30. What is the function of the except operation?

    a) It excludes all the results present in both the queries

    b) It includes the results of the second query but excludes the results of the first query

    c) It includes the results of the first query but excludes the results of the second query

    d) It includes all the results of both queries but removes duplicates

31. When does the predicate is null succeed?

    a) If the value on which it is applied is finite

    b) If the value on which it is applied is invalid

c) If the value on which it is applied is blank

d) If the value on which it is applied is more than the allowed limit

32. Using the _____ clause retains only one copy of identical tuples

a) distinct

b) is not null

c) no repeat

d) from

33. Observe the following query and choose the correct option

```
SELECT DISTINCT name
FROM student
WHERE ID IS NOT NULL;
```

a) The query is syntactically wrong

b) The query gives all the possible student names where a finite value exists for ID

c) The query gives the names of the students that have a null ID and it also excludes identical names

d) The query gives the student names where a finite value exists for ID and it excludes identical names

34. Which of the following correctly describes the between predicate in the where clause?

a) It is used to check whether a value is in between two specified values

b) It is used to check whether a value is exactly in the center of the relation alphabetically

c) It is used to check whether a value is in between any two other values in the database

d) None of the mentionedues of the studentid for which section not c and roll > 10

35. Which of the following is not a built in aggregate function in SQL?

a) avg

b) max

c) total

d) count

36. Observe the given SQL query and choose the correct option.

```
SELECT branch_name, COUNT (DISTINCT customer_name)
FROM depositor, account
WHERE depositor.account_number = account.account_number
GROUP BY branch_id
```

a) The query is syntactically correct but gives the wrong answer

b) The query is syntactically wrong

c) The query is syntactically correct and gives the correct answer

d) The query contains one or more wrongly named clauses.

37. State true or false: SQL does not permit distinct with count(*)

a) True

b) False

38. We apply the aggregate function to a group of sets of tuples using the _____ clause.

a) group by

b) group

c) group set

d) group attribute

39. Choose the correct option regarding the query

```
SELECT branch_name, COUNT (DISTINCT customer_name)
```

```
FROM depositor, account
WHERE depositor.account_number = account.account_number
    GROUP BY branch_id
    HAVING avg(balance) = 10000;
```

a) The having clause checks whether the query result is true or not

b) The having clause does not check for any condition

c) The having clause allows only those tuples that have average balance 10000

d) None of the mentioned

40. The _____ aggregation operation adds up all the values of the attribute

    a) add

    b) avg

    c) max

    d) sum

41. State true or false: Any attribute which is present in the having clause without being aggregated must not be present in the group by clause.

    a) True

    b) False

42. State true or false: We can rename the resulting attribute after the aggregation function has been applied

    a) True

    b) False

43. Which keyword is used to rename the resulting attribute after the application of the aggregation function?

    a) rename

    b) as

    c) replace

    d) to

44. What values does the count(*) function ignore?

    a) Repetitive values

    b) Null values

    c) Characters

    d) Integers

45. What is a subquery?

    a) A subquery is a select-from-where expression that is nested within another query

    b) A subquery is any query that is nested within another query

    c) A subquery is a relation that is externally specified which can be used to handle data in queries

    d) A subquery is a condition that excludes all the invalid tuples from the database

46. If a set is a collection of values given by the select clause, The _____ connective tests for set membership

    a) within

    b) include

    c) under

    d) in

47. State true or false : Nested Subqueries cannot be used for comparing two different sets

    a) True

    b) False

48. What is the result of the following query?

    SELECT studname

    FROM college

    WHERE marks > SOME (SELECT marks

    FROM student

WHERE SECTION = 'c');

a) The query gives all the studnames for which marks are greater than all the students in section c

b) The query gives all the studnames for which the marks are greater than at least on student in section c

c) The query gives all the studnames for which the marks are less than all the students in section c

d) The query is syntactically incorrect

49. The _____ comparison checker is used to check “each and every” condition

a) all

b) and

c) every

d) each

50. The _____ construct returns true if a given tuple is present in the subquery.

a) not exists

b) present

c) not present

d) exists

51. What is a correlated sub-query?

a) An independent query that uses the correlation name of another independent query.

b) A sub-query that uses the correlation name of an outer query

c) A sub-query that substitutes the names of the outer query

d) A sub-query that does not depend on its outer query’s correlation names

52. The _____ construct returns true if the argument in the sub-query is void of duplicates

a) not null

b) not unique

c) unique

d) null

53. State true or false: We can use Subqueries inside the from clause

a) True

b) False

54. Choose the correct option regarding the following query

```
WITH max_marks (VALUE) AS
(SELECT MAX(marks)
FROM student)
SELECT studentID
FROM student,max_marks
WHERE student.marks = max_marks.value;
```

a) The query is syntactically wrong

b) The query gives the studentID of the student with the maximum marks

c) The query gives the maximum marks amongst all the students

d) The query gives all the studentID values except the student with the maximum marks

55. SQL subqueries that can occur wherever a value is permitted provided the subquery gives only one tuple with a single attribute are called _____

a) Exact Subqueries

b) Vector Subqueries

c) Positive Subqueries

d) Scalar Subqueries

56. Insert the appropriate key word in the blank in the query (A is a relation)

delete _____ A

where P < 5;

a) all

b) from

c) with

d) in

57. How many relations can a delete command operate on?

a) 0

b) 1

c) 2

d) Infinitely many

58. What is the result of the following query?

DELETE FROM student

WHERE marks < (SELECT avg(marks)

FROM student);

a) The query deletes all the tuples whose marks are greater than the average marks

b) The query deletes all the tuples whose marks are less than the average marks

c) The query deletes all the values under the marks attribute which are less than the average

d) The query is syntactically wrong and does not execute

59. What is the format of entering date into a database while inserting data into it?

a) YYYY-MM-DD

b) “YYYY-MM-DD”

c) ‘YYYY-MM-DD’

d) “DD-MM-YYYY”

60. Choose the correct option regarding the following query

```
INSERT INTO course ('CS-67' , 'course name', 'any' , 5);
```

a) Data is inserted into the course relation

b) Data is not inserted into the course relation due to incorrect specification

c) Data is inserted into the CS-67 relation

d) Data is not inserted due to the incorrect use of syntax

61. To change a value in a tuple without changing all the values in the tuple, we use the _____ statement

a) insert

b) insert some

c) update

d) alter

62. What does the following query do?

```
UPDATE student
SET marks = marks*1.10;
```

a) It increases the marks of all the students by 10%

b) It decreases the marks of all the students by 90%

c) It increases the marks of all the students by 110%

d) It is syntactically wrong

63. State true or false: We cannot write a where clause under an update command

    a) True

    b) False

64. Scalar Subqueries can be used in the SQL update statement when they are used under the ____ clause

    a) where

    b) with

    c) set

    d) end

65. Which of the following cannot be used to modify the data in a database

    a) update

    b) insert

    c) delete

    d) drop

66. The on condition appears at the _____ of the join expression

    a) Beginning

    b) End

    c) Between

    d) The on condition is not related to join expression

67. What is the difference between a join and an outer join operation?

    a) There is no difference

    b) Join preserves a few tuples that are otherwise lost in the outer join

    c) Outer join preserves a few tuples that are otherwise lost in the join

d) An outer join can be used only on outer queries whereas a join operation can be used in Subqueries

68. The join operations that do not retain mismatched tuples are called as _____ operations

a) outer join

b) natural join

c) full outer join

d) inner join

69. What is the function of a left outer join?

a) It preserves tuples only in the relation named before the operation

b) It preserves tuples only in the relation named after the operation

c) It preserved tuples in the relations named on both the sides of the operation

d) It does not preserve any tuples on either side of the relation

70. What is the function of a full outer join?

a) It preserves tuples only in the relation named before the operation

b) It preserves tuples only in the relation named after the operation

c) It preserved tuples in the relations named on both the sides of the operation

d) It does not preserve any tuples on either side of the relation

71. What is the function of a right outer join?

a) It preserves tuples only in the relation named before the operation

b) It preserves tuples only in the relation named after the operation

c) It preserved tuples in the relations named on both the sides of the operation

d) It does not preserve any tuples on either side of the relation

72. What is the function of inner join?
    a) It preserves tuples only in the relation named before the operation
    b) It preserves tuples only in the relation named after the operation
    c) It preserved tuples in the relations named on both the sides of the operation
    d) It does not preserve any tuples on either side of the relation

73. State true or false: on and where behave differently for outer join
    a) True
    b) False

74. Which off the following is not a valid type of join?
    a) left outer join
    b) outer join
    c) join
    d) full join

75. If a left outer join is performed and the tuple on the left hand side does not match with the tuple on the right hand side, what happens to the values that are preserved on the left hand side?
    a) They are given null values
    b) They are given a random value
    c) The user is asked to enter data
    d) The query is declared invalid by the compiler

76. What is a view?

a) An brief description of the schema diagram.

b) A relation that is not a part of the schema but is a virtual relation

c) Any relation that is a part of the schema

d) A relation that is a part of the schema but which needs to be specified in every operation made on that particular relation.

77. What is the command used to define view in SQL?

a) define view

b) new view

c) create view

d) none of the mentioned

78. create view studentdet

select ID, address, name

from student;

What is the result of the above query?

a) It creates a view named studentdet with 3 attributes

b) It creates a view named studentdet with 1 attribute

c) It creates a view named ID with 2 attributes

d) It is syntactically wrong and does not give a result

79. State true or false: One view can be used in the expression defining another view

a) True

b) False

80. If the actual relations used in the view definition change, the view is updated immediately. Such views are called _____

    a) Instant views

    b) Instantaneous views

    c) Materialistic views

    d) Materialized views

81. The process of maintaining views up to date is called _____

    a) View maintenance

    b) View updating

    c) View materialization

    d) View isolation

82. How can we insert data into a view?

    a) insert into ();

    b) create data values ();

    c) enter ();

    d) insert into values ();

83. State true or false: We can update a view if it has multiple database relations in the from clause

    a) True

    b) False

84. The _____ statement makes the updates performed by the transaction permanent.

    a) Finalize work

b) Finish work

c) Commit work

d) None of the mentioned

85. The _____ statement causes the statements to undo all the updates performed on the transaction

a) Undo work

b) Rollback work

c) Commit work

d) Replace work

86. Which of the following is not an integrity constraint?

a) not null

b) unique

c) identical

d) check

87. What is the function of the not null constraint?

a) It prevents illegal data from being entered into the database

b) It ensures that data is entered into the database

c) It ensures that the data entered is unique

d) None of the mentioned

88. What is the function of the unique constraint?

a) It ensures that no two values under an attribute are identical

b) It ensures that all the attributes are perfectly unique in their data type

c) It ensures that all the relations in the database have a unique set of attributes

d) It does not have any function in SQL

89. What is the functions of on delete cascade?

a) It is used to delete a tuple in a table

b) It is used to specify the precise attribute that needs to be deleted in a single relation.

c) It is used to preserve referential integrity in a relation

d) It is used to execute sub-queries in the from clause.

90. What does the following condition do?

check(name in('Ryan', 'Cristiano', 'Leo'))

a) The condition checks whether the name attribute includes the three mentioned names

b) The condition allows the name attribute to possess only the three mentioned names

c) The condition checks whether the given names are sub-strings in at least one of the values

d) None of the mentioned

91. Referential integrity constraints are also called as _____

a) Functional dependencies

b) Subset dependencies

c) Superset dependencies

d) Primary dependencies

92. _____ is a predicate that we expect the database to always satisfy

a) Assertion

b) Reason

c) Mandate

d) Verify

93. State true or false: Oracle does not support complex check conditions

a) True

b) False

94. What statement is used to define a new assertion in SQL?

a) create check ;

b) create assertion where ;

c) create where ;

d) create assertion check ;

95. Which of the following is not a valid Date and Time data type?

a) date

b) time

c) datestamp

d) timestamp

96. What is a timestamp?

a) A combination of date and time with date first

b) A combination of date and time with time first

c) A combination of time and place with time first

d) A combination of time and place with place first

97. What does p indicate in the following data type?

time(p)

a) The amount of delay that needs to be added to the time
b) The number of fractional digits for the seconds
c) The maximum number of allowed hours
d) None of the mentioned

98. What is a default value?

a) It is a value that automatically creates a primary key
b) It is a value that cannot be altered during insertion of values in the tuple
c) It is a value that is initially loaded into the attribute
d) None of the mentioned

99. Which of the following is an illegal data type in SQL

a) number
b) clob
c) blob
d) lint

100. State true or false: Users can define new data types in SQL

a) True
b) False

101. What does the following statement do?

create table temp_inst like institute

a) It creates a new relation temp_inst with all the tuples and attributes of the institute relation

b) It creates a new relation temp_inst with the same schema as that of the institute relation

c) It creates a new relation named temp_inst with institute as its only attribute

d) It does not create any relations and returns an error

102. Which of the following is a privilege in SQL standard?

a) select

b) insert

c) update

d) All of the mentioned

103. The _____ statement is used in SQL to confer authorization.

a) grant

b) confer

c) implement

d) permit

104. revoke select on takes from amit;

What does the above query perform?

a) It revokes all authorizations from amit

b) It revokes select authorization from amit

c) It revokes takes authorization from amit

d) It gives an error

105. Which of the following is/are a function of dynamic SQL?

a) Allowing a program to construct an SQL query in a character string

b) Submitting the query

c) Retrieving the result into the program variables a tuple at a time

d) All of the mentioned

106. What is the full form of JDBC?

a) Java Database Connectivity

b) Java Database Co-Operation

c) JSP Database Committee

d) Java Database Creation

107. State true or false: Developers cannot write their own functions into SQL

a) True

b) False

108. Which of the following are not a part of PL/SQL

a) Triggers

b) Packages

c) Functions

d) None of the mentioned

109. The part of SQL that deals with the SQL supports constructs is called as _____

a) Persistent construct dealer

b) Persistent storage module

c) Persistent supports center

d) Primary storage medium

110. A _____ is a statement that the system executes whenever a database is modified

a) Trigger

b) Function

c) Package

d) Protocol

111. State true or false: Recursive queries are permitted in SQL

a) True

b) False

112. How many different types of drivers are present in JDBC?

a) 1

b) 2

c) 3

d) 4

113. Which JDBC Driver is the most efficient of all the JDBC drivers?

a) Type 1 Driver

b) Type 2 Driver

c) Type 3 Driver

d) Type 4 Driver

114. Which package comprises of the core JDBC API?

a) java.sql
b) java.database
c) sql.java
d) java.relation

115. What is the full form of OLAP?

a) Online Application Programming
b) Online Application Processing
c) Online Analytical programming
d) Online Analytical Processing

116. Data that can be modelled as dimension attributes and measure attributes are called _____

a) Mono-dimensional data
b) Multi-dimensional data
c) Measurable data
d) Efficient data

117. The operation of changing a dimensions used in a cross-tab is called as _____

a) Alteration
b) Pivoting
c) Piloting
d) Renewing

118. The operation of moving from finer granular data to coarser granular data is called _____

a) Reduction

b) Increment

c) Roll up

d) Drill down

119. How many dimensions of multi-dimensional data do cross tabs enable analysts to view?

a) 1

b) 2

c) 3

d) None of the mentioned

120. The _____ function allows substitution of values in an attribute of a tuple

a) Cube

b) Unknown

c) Decode

d) Substitute

121. Which of the following OLAP systems do not exist?

a) HOLAP

b) MOLAP

c) ROLAP

d) None of the mentioned

122. State true or false: OLAP systems can be implemented as client-server systems

a) True

b) False

123. The operation of moving from coarser granular data to finer granular data is called _____

a) Reduction

b) Increment

c) Roll back

d) Drill down

124. State true or false: In OLAP, analysts cannot view a dimension in different levels of detail.

a) True

b) False

125. Which of the following is not a relational algebra function?

a) Select

b) Project

c) Manipulate

d) Union

126. The select operation's function in relational algebra is identical to the _____ clause in SQL

a) where

b) from

c) select

d) none of the mentioned

127. The project operation's function in relational algebra is identical to the _____ clause in SQL

a) where

b) from

c) select

d) none of the mentioned

128. What does the following relational operation perform?

ρx(A1,A2,A3…) (E)

a) It returns the result of expression E with the previous attribute names

b) It returns the result of expression E renaming the attributes as A1, A2, …

c) It returns the result of the relation E but saves the old attributes

d) None of the mentioned

129. What does the following relational algebra expression do?

σamount > 1200 (loan)

a) Finds all the tuples in loan

b) Finds the tuples in loan where the amount is greater than 12000

c) Finds all the tuples in loan where the amount is greater than 1200

d) Finds all the amounts in loan where the number of values is greater than 1200

130. How is the left outer join symbol represented in relational algebra?

a) ⟖

b) ⟕

c) ⟗

d) ⋈

131. How is the right outer join symbol represented in relational algebra?

a) ⟖

b) ⟕

c) ⟗

d) ⋈

132. Πcustomer_name, loan_number, amount (borrower ⋈loan)

What does the above expression perform?

a) It finds the customer_name, loan_number and amount from borrower

b) It finds the customer_name, loan_number and amount from loan

c) It finds the customer_name, loan_number and amount from the full outer join of borrower and loan

d) It finds the customer_name, loan_number and amount from the natural join of borrower and loan

133. Updating, Deleting and Inserting in relational algebra is done using the _____ operator

a) Assignment

b) Modification

c) Alteration

d) Inclusion

134. State true or false: There exists a division operator in Relational Algebra

a) True

b) False

135. The collections on which aggregate functions can operate are called as _____

a) Multisets

b) Multivalues

c) Multicollections

d) Multivariables

136. The _____ of the entity set is an actual collection of entities belonging to that entity set.

a) Extension

b) Intention

c) Description

d) Availability

137. A _____ is an association among several entities.

a) Relationship

b) Association

c) Set

d) Combination

138. The attributes of a relationship are called as _____ attributes

a) Relational

b) Conjunctive

c) Descriptive

d) None of the mentioned

139. What are composite attributes?

a) They are those attributes which cannot be further divided into other attributes

b) They are those attributes which can further be divided into other attributes

c) They are those attributes which are essentially the primary keys of the relation

d) None of the mentioned

140. Let E be an entity set in a relationship set R. If every entity in E participates in at least one relationships in R, Then the participation of E in R is _____

a) Partial

b) Total

c) Complete

d) Incomplete

141. Let E be an entity set in a relationship set R. If only some entities in E participate in relationships in R, Then the participation of E in R is _____

a) Partial

b) Total

c) Complete

d) Incomplete

142. State true or false: We cannot specify keys in the Entity-Relationship model

a) True

b) False

143. State true or false: Multiple attributes combined together can be primary keys

a) True

b) False

144. Which of the following is a good database management practice?

a) Adding redundant attributes

b) Removing redundant attributes

c) Not specifying primary keys

d) None of the mentioned

145. Which of the following symbols represent entity sets in an ER diagram?

a) Divided rectangles

b) Diamonds

c) Lines

d) Undivided rectangles

146. Which of the following symbols represent relationship sets in an ER diagram

a) Divided rectangles

b) Diamonds

c) Lines

d) Undivided rectangles

147. What do double diamonds represent in an ER diagram

a) They link entity sets to relationship sets

b) Total participation of an entity in a relationship set

c) Relationship sets linked to weak entity sets

d) None of the mentioned

148. What does a directed line (→) from a relationship set to two entity sets mean?

a) One-one

b) Many-one

c) Many-many

d) One-many

149. How are roles specified in an ER diagram

a) By labelling the rectangles

b) By labelling the diamonds

c) Roles cannot be specified in an ER diagram

d) By labelling the lines

150. How is the discriminator of a weak entity set specified?

a) Using a solid line

b) Circling it

c) Using a dashed line

d) Drawing a square around it

151. An entity set that has a primary key is called as _____

a) Strong entity set

b) Weak entity set

c) Complete entity set

d) None of the mentioned

152. The relationship associating the weak entity sets with the identifying entity set is called as _____

a) Identifying relationship

b) Connecting relationship

c) Completing relationship

d) Unique relationship

153. State true or false: Every weak entity set must be associated with an identifying entity

a) True

b) False

154. State true or false: A weak entity can participate in all the relationships.

a) True

b) False

155. For schemas derived from strong entity sets, the _____ of the entity set serves as the primary key of the resulting schema

a) First attribute

b) Primary key

c) Foreign key

d) None of the mentioned

156. State true or false: Derived attributes cannot be directly represented in the relational data model

a) True

b) False

157. The primary key of the representation of a weak entity set consists of the primary key of the strong entity set and the _____

a) Discriminator of the weak entity set

b) Foreign key

c) Primary key of all the other entity sets

d) All the attributes of the weak entity set

158. For a binary many to many relationship, the _____ of the participating entity sets becomes the prime attribute

a) Intersection of primary keys

b) Primary key of either one

c) Union of primary keys

d) Primary key on the many side

159. For a binary one to one relationship, the _____ of the participating entity sets becomes the prime attribute

a) Intersection of primary keys

b) Primary key of either one

c) Union of primary keys

d) Primary key on the many side

160. For a binary many to many relationship, the _____ of the participating entity sets becomes the prime attribute

a) Intersection of primary keys

b) Primary key of either one

c) Union of primary keys

d) Primary key on the many side

161. For a n-ary relationship set without arrows, the _____ of the participating entity sets becomes the prime attribute

a) Intersection of primary keys

b) Primary key of either one

c) Union of primary keys

d) Primary key on the many side

162. State true or false: The schema for the relationship set linking a weak entity set to its corresponding strong entity set is redundant.

a) True

b) False

163. Statement 1: We can create foreign key constraints on relational schema derived from ER diagram

Statement 2: Relational schema cannot be derived from an ER diagram

a) Both the statements are true

b) Both the statements are false

c) Statement 1 is true and Statement 2 is false

d) Statement 2 is true and statement 1 is false

164. Which of the following can affect the placement of the relationship attributes?

a) Alphabetical order

b) The data in the attribute

c) Cardinality ratio

d) None of the mentioned

165. The process of designating sub groupings within the entity set is called as _____

a) Specialization

b) Division

c) Aggregation

d) Finalization

166. State true or false: Specialization can be applied only once

a) True

b) False

167. Which of the following is the specialization that permits multiple sets

a) Superclass specialization

b) Disjoint specialization

c) Overlapping specialization

d) None of the mentioned

168. The similarities between the entity set can be expressed by which of the following features?

a) Specialization

b) Generalization

c) Uniquation

d) Inheritance

169. Higher level entity sets are designated by the term _____

a) Sub class

b) Super class

c) Parent class

d) Root class

170. State true or false: The attributes of the higher level entity sets are inherited by the attributes of the lower level entity sets

a) True

b) False

171. Which of the following is not a generalization constraint?

a) Condition-defined

b) User defined

c) Disjoint

d) Machine defined

172. Condition defined generalization constraint is also said to be _____

a) Attribute defined

b) Constraint defined

c) Value defined

d) Undefined

173. If each higher level entity belongs to the lower level entity, then what kind of generalization is it?

a) Modal generalization

b) Partial generalization

c) Total generalization

d) None of the mentioned

174. _____ is an abstraction through which relationships are treated as higher level entities

a) Creation

b) Superseding

c) Attribute separation

d) Aggregation

175. Which of the following is not a feature of a good relational design?

a) Specifying primary keys

b) Specifying foreign keys

c) Preserving integrity constraints

d) Allowing redundancy of attributes

176. The dependency rules specified by the database designer are known as _____

a) Designer dependencies

b) Database rules

c) Functional dependencies

d) None of the mentioned

177. If the decomposition is unable to represent certain important facts about the relation, then such a decomposition is called as?

a) Lossless decomposition

b) Lossy decomposition

c) Insecure decomposition

d) Secure decomposition

178. If the decomposition is able to represent all the facts about the relation then such a decomposition is called as?

a)Lossless decomposition

b) Lossy decomposition

c) Insecure decomposition

d) Secure decomposition

179. A domain whose elements are indivisible is called as _____

a) Unique domain

b) Proxy domain

c) Atomic domain

d) Multiple domain

180. State true or false: Composite attributes have non-atomic domains.

a) True

b) False

181. State true or false: Redundancy is desired in a relational schema

a) True

b) False

182. An instance of a relation that satisfies all real world constraints is known as?

a) Proper relation

b) Ideal relation

c) Perfect relation

d) Legal relation

183. If K → R then K is said to be the _____ of R

a) Candidate key

b) Foreign key

c) Super key

d) Domain

184. X → Y holds on a schema k(K) if?

a) At least one legal instance satisfies the functional dependency

b) No legal instance satisfies the functional dependency

c) Each and every legal instance satisfies the functional dependency

d) None of the mentioned

185. X→ Y is trivial if?

a) $X \subset Y$

b) $Y \subset X$

c) $X \supseteq Y$

d) None of the mentioned

186. Which of the following is not a condition for X→ Y in Boyce codd normal form?

a) X → Y is trivial

b) X is the superkey for the relational schema R

c) Y is the superkey for the relational schema R

d) All of the mentioned

187. Which of the following is used to express database consistency?

a) Primary keys

b) Functional dependencies

c) Check clause

d) All of the mentioned

188. Which of the following is not a condition for the third normal form in the case of X□Y?

a) X→ Y is trivial

b) X is the superkey for R

c) Each attribute in Y-X is a candidate key for R

d) Each attribute in X-Y is a candidate key for R

189. F+ is called as the _____ of F

a) Closure

b) Sum

c) Cartesian product

d) None of the mentioned

190. State true or false: A functional dependency must first satisfy the second normal form to satisfy the third normal form.

a) True

b) False

191. State true or false: The fourth normal form does not exist and it is instead called as the BCNF.

a) True

b) False

192. A functional dependency f on R is _____ by a set of functional dependencies F on r if every instance of r(R) that satisfies f also satisfies F.

a) Logically Defined

b) Logically Derived

c) Logically implied

d) None of the mentioned

193. If F is a set of functional dependencies, then the closure of F is denoted by?

a) F*

b) Fo

c) F+

d) F

194. If a functional dependency is reflexive, B is a subset of A and A is the set of attributes, then

a) B→A holds

b) A→B holds

c) AB→C holds

d) None of the mentioned

195. State true or false: Armstrong's axioms allow us to generate all F+ for any given F

a) True

b) False

196. Armstrong axioms are called sound because?

a) They are expensive

b) They cannot generate correct functional dependencies

c) They allow us to generate the complete closure

d) They cannot generate incorrect functional dependencies

197. State true or false: Functional dependencies are transitive

a) True

b) False

198. If A→B, A→ C then which of the following is true?

a) A→BC

b) A→B

c) A→C

d) All of the mentioned

199. If B is an attribute and A→B, Then B is said to be _____ by a.

a) Logically implied

b) Functionally implied

c) Logically determined

d) Functionally determined

200. We say that a decomposition having the property F'+ = F+ is a _____ decomposition.

a) Dependency losing

b) Dependency preserving

c) Lossless

d) None of the mentioned

201. A _____ Fc for F is a set of dependencies such that F logically implies all dependencies in Fc, and Fc logically implies all dependencies in F.

a) Canonical cover

b) Complete cover

c) Canonical dependency

d) Canonical clause

202. What does the BCNF decomposition algorithm do?

a) States a method to decompose a relation satisfying BCNF

b) States a method for joining two relations satisfying BCNF

c) States a method to decompose a relational schema such that there are no multiple occurrences

d) None of the mentioned

203. The 3NF decomposition algorithm is also called as _____

a) 3NF normal algorithm

b) 3NF synthesis algorithm

c) 3NF generator

d) Functional dependence algorithm

204. Which of the following is desirable in a database design with functional dependencies?

a) BCNF

b) Losslessness

c) Dependency preservation

d) All of the mentioned

205. State true or false: SQL specifies a way of mentioning functional dependencies

a) True

b) False

206. State true or false: Most current database systems do not support constraints on materialized view

a) True

b) False

207. Multi valued dependencies are also called as _____

a) Equality generating dependencies

b) Tuple generating dependencies

c) Multi-purpose dependencies

d) None of the mentioned

208. Functional dependencies are sometimes referred to as _____

a) Equality generating dependencies

b) Tuple generating dependencies

c) Multi-purpose dependencies

d) None of the mentioned

209. the _____ is a set of all functional and multi values dependencies implied by a set of functional dependencies

a) Star

b) Closure

c) Derivation

d) Evolution

210. State true or false: If a relational schema is in _____ NF and A is a subset of R and B is also a subset of R then it is that A is a superkey is a trivial multi values dependency.

a) 1

b) 2

c) 3

d) 4

211. Which of the following normal forms does not exist?

a) BCNF

b) PJNF

c) 5NF

d) None of the mentioned

212. Which of the following is not a process of generating a good relational schema?

a) Converting ER diagrams to relational schema

b) Decomposing the relational schema while satisfying functional dependencies

c) Joining multiple relations together to form a single relation containing all the attributes

d) A design of relations which is then tested and modified to satisfy given normal forms

213. What is unique role assumption?

a) The attribute name has a unique meaning in the database

b) The attributes are all unique

c) No two tuples have even a single same value in a relation

d) None of the mentioned

214. The process of making a normalized schema unnormalized is called as _____

a) Unnormalization

b) Denormalization

c) Renormalization

d) Annormalization

215. State true or false: Crosstabs are not desirable in a database design

a) True

b) False

216. The data that have a time interval associated with them during which they are valid are called as _____

a) Timed data

b) Temporal data

c) Model data

d) Clocked data

217. The value of the data at a particular time is called as?

a) Instance

b) Picture

c) Snapshot

d) None of the mentioned

218. Functional dependencies that have a time associated with them during which they are valid are called as_____

a) Timed functional dependencies

b) Clocked functional dependencies

c) Temporal functional dependencies

d) Modeled functional dependencies

219. State true or false: Overlapping time intervals cannot be prevented

a) True

b) False

220. Which of the following is the time of temporal data that record when a fact was recorded in a database?

a) Transaction time

b) Valid time

c) Enter time

d) Exit time

221. To specify the foreign keys in relations referencing temporal data we need to specify _____

a) The time interval

b) The Boolean value for the working

c) The integer corresponding to the relation number

d) None of the mentioned

222. The _____ layer provides the interface between the business logic layer and the underlying database

a) Business-logic layer

b) Data access layer

c) Data transfer layer

d) Business manager layer

223. What are workflows in a business logic layer?

a) They describe how a particular task that involves servers is handled

b) They describe how multiple tasks involving a single participant is handled

c) They describe how a particular task involving multiple participants is handled.

d) None of the mentioned

224. State true or false: The code implementing the actions in the business logic layer ensures that business rules are followed

a) True

b) False

225. What is the full form of JSON?

a) JavaScript Object Native

b) JavaScript Object Notation

c) JavaScript Object Negation

d) Java Object Notation

226. Which of the following features does Rapid Application Development possess?

a) Provide a library of functions to generate UI elements

b) Provide drag and drop features in a n IDE

c) Auto generation of code for the user interface from a declarative specification

d) All of the mentioned

227. What are report generators?

a) They are the tools to generate human readable reports from a database

b) They are the tools that generate reports on the statistics of the database usage

c) They are the tools that prevent database querying and instead they generate pie charts and graphs

d) None of the mentioned

228. Which of the following methods is used to reduce overhead?

a) Connection pooling

b) Parallel Processing

c) Caching Query Results at the server

d) All of the mentioned

229. If an attacker manages to get an application to execute an SQL query created by the attacker, then such attacks are called as _____

a) SQL attacks

b) SQL injection attacks

c) SQL usage attack

d) SQL destroyer attack

230. An attack on a website that stores and displays text to a user is known as _____ attack

a) SQL attack
b) XSS attack
c) XRP attack
d) None of the mentioned

231. The URL of the page that had the link that the user clicked to access the page is called as _____

a) Source
b) Linker
c) Leaker
d) Referrer

232. State true or false: Password leakage is a major security problem

a) True
b) False

233. The system where two independent pieces of data are used to identify a user is called as _____

a) Two system authentication
b) ID password authentication
c) Two factor authentication
d) Multi data authentication

234. What are man in the middle attacks?

a) Users are forced to use a second server which causes the attack

b) Users are forced to divert to a fake site where the attack takes place

c) Users are fooled by similar GUI and data is extracted from them.

d) None of the mentioned

235. What are phishing attacks?

a) Users are forced to use a second server which causes the attack

b) Users are forced to divert to a fake site where the attack takes place

c) Users are fooled by similar GUI and data is extracted from them.

d) None of the mentioned

236. What is the standard for exchanging authentication and authorization information between two different security domains?

a) SABM

b) STML

c) SPTA

d) SAML

237. A log of all changes to the application data is called as _____

a) Audit trail

b) Audit log

c) Audit lead

d) Data log

238. Which of the following is a valid encryption technique?

a) Parallel key encryption

b) Public key encryption

c) Systematic key encryption

d) All of the mentioned

239. Statement 1: Cache storage is very fast

Statement 2: Cache storage is very cheap

a) Both the statements are true

b) Statement 1 is true but statement 2 is false

c) Statement 1 is false but statement 2 is true

d) Both the statements are false

240. What is the difference between flash memory and main memory?

a) Data is retained in flash memory

b) Data access is faster in flash memory

c) Data storage is very large in flash memory

d) None of the mentioned

241. What does a null bitmap indicate?

a) The database does not exist

b) The record does not exist

c) The attributes of a record do not have a value

d) The attributes are missing from record

242. Metadata about the relations are stored in _____

a) File header
b) Data dictionary
c) Data query
d) Data analyser

243. Data dictionary is also called as _____

a) Data log
b) System log
c) System catalog
d) System database log

244. What is a multitable clustering file organization?

a) It stores related records of two or more relations in each block
b) It stores related data about the relations in each block
c) It links each and every block by introducing an external attribute
d) None of the mentioned

245. Which of the following need to be stored in the data dictionary?

a) Name of the relation
b) Domains and lengths of attributes
c) Integrity constraints
d) All of the mentioned

246. The subsystem responsible for the allocation of buffer space is called as _____

a) Buffer allocator
b) Buffer manager
c) Buffer enhancer
d) Buffer intermediary

247. What is the full form of LRU (in buffer replacement strategy)?

a) Least Reactive User
b) Least Recently Used
c) Least Read URL
d) Lowest Reading User

248. The types of access that are supported efficiently are called as _____

a) Access modes
b) Access types
c) Access time
d) Access overhead

249. The time it takes to find a particular data item is called as _____

a) Insertion time
b) Deletion time
c) Time overhead
d) Access time

250. The time it takes to insert a new data item is called _____

a) Insertion time
b) Deletion time

c) Time overhead

d) Access time

251. The time it takes to delete a data item is called as _____

a) Insertion time

b) Deletion time

c) Time overhead

d) Access time

252. The additional space occupied by an index structure is called as _____

a) Access modes

b) Space types

c) Access time

d) Space overhead

253. If the file containing the records is sequentially ordered, a _____ is an index whose search key also defines the sequential order of the file.

a) Clustering data

b) Cluttering index

c) Clustering index

d) Clustering number

254. State true or false: Clustering indices are also called as primary indices

a) True

b) False

255. If an index entry appears for every search key value in the file, it is called as _____

a) Dense key
b) Dense index
c) Sparse key
d) Sparse index

256. If an index entry appears for only some of the search key values in the file, it is called as _____

a) Dense key
b) Dense index
c) Sparse key
d) Sparse index

257. Indices with two or more levels are called as?

a) Multiple Indices
b) Multilevel indices
c) Bi- tri- Indices
d) None of the mentioned

258. A search key containing more than one attribute is called a _____ search key

a) Multiple
b) Multilevel
c) Composite
d) Primary

259. The term _____ is used to denote a unit of storage that can store one or more records

a) Basket
b) Bucket

c) Unit

d) Set

260. If K denotes the set of all the search key values, and B denotes the set of all bucket addresses, a function from K to B is called as _____

a) Bucket function

b) Address function

c) Hash function

d) Search function

261. In a _____ , we obtain the address of the disk block containing a desired record directly by computing a function on the search key value of the record

a) Hash file organization

b) Hash index organization

c) Hashing address

d) None of the mentioned

262. In a _____ we organize the search keys, with their associated pointers, into a hash file structure

a) Hash file organization

b) Hash index organization

c) Hashing address

d) None of the mentioned

263. What is a bucket overflow?

a) When a bucket does not have enough space

b) There are insufficient buckets

c) When Bucket skew occurs

d) All of the mentioned

264. Some buckets are assigned more records than the others which causes bucket overflow, this condition is called as _____

a) Bucket sufficiency

b) Bucket insufficiency

c) Bucket skew

d) Bucket normalcy

d) The sum of the digits

265. State true or false: Hash indices are only primary index structures

a) True

b) False

266. Dynamic hashing allows us to?

a) Accommodate the growth of the database

b) Accommodate the shrinkage of the database

c) Allows modification of hash function

d) All of the mentioned

267. Dynamic hashing is also called as _____

a) Extended hashing

b) Extendable hashing

c) Static hashing

d) Movable hashing

268. Which of the following operations can be performed on an extendable hash structure?

a) Lookup

b) Insertion

c) Deletion

d) All of the mentioned

269. The space overhead in dynamic hashing is _____ than that of static hashing

a) More

b) Less

c) Equal

d) None of the mentioned

270. Which of the following is a disadvantage of the dynamic hashing structure

a) Buckets can be allocated dynamically

b) Lookup involves additional level of indirection

c) It involves a lesser space overhead

d) Hash structure can be modified dynamically

271. The form of dynamic hashing that avoids the additional level of indirection is called as _____

a) Linear hashing

b) Static hashing

c) Directive hashing

d) Indirective hashing

272. Hash structures are not the best choice for which of the following?

a) A search key on which individual point queries are likely

b) A search key which is invalid

c) A search key on which range queries are likely

d) A search key on which multi-level queries are likely

273. Which of the following is an issue that needs to be considered while choosing an indexing technique?

a) Frequency of insertion and deletion

b) Data types of the data

c) Number of items in the relation

d) None of the mentioned

274. A bitmap is _____

a) An array of bits

b) An index of bits

c) A function mapping all the bits of data

d) None of the mentioned

275. A _____ on the attribute A of relation r consists of one bitmap for each value that A can take

a) Bitmap array

b) Bitmap index

c) Bitmap excess

d) Bitmap

276. Intersection of the bitmaps is done by

a) Logical AND

b) Logical OR

c) Logical NOT

d) Logical NOR

277. What does an existence bitmap do?

a) It recognizes deleted records

b) It inserts values into empty bitmaps

c) It makes sure that no records are deleted

d) None of the mentioned

278. The complement operation in bitmaps is done by using

a) Logical AND

b) Logical OR

c) Logical NOT

d) Logical NOR

279. State true or false: Bitmaps can be combined with B+ trees

a) True

b) False

280. We create an index in SQL using _____ command

a) Create index

b) New index

c) Create new index

d) Develop index

281. We delete and index in SQL using the _____ command

a) Remove index

b) Delete index

c) Drop index

d) None of the mentioned

282. State true or false: Intersection operations are extremely slow on bitmaps

a) True

b) False

283. Which of the following operations is used for the union of bitmaps?

a) Logical AND

b) Logical OR

c) Logical NOT

d) Logical NOR

284. Which of the following are steps in query processing?

a) Parsing and translation

b) Optimization

c) Evaluation

d) All of the mentioned

285. A relational algebra operation annotated with instructions on how to evaluate it is called _____

a) Evaluation algebra

b) Evaluation plan

c) Evaluation primitive

d) Evaluation engine

286. A sequence of primitive operations that can be used to evaluate a query are called as _____

a) Query evaluation algebra
b) Query evaluation plan
c) Query evaluation primitive
d) Query evaluation engine

287. The lowest level operator to access data in query processing is _____

a) File scan
b) File manipulation
c) File handling
d) File organization

288. Search algorithms that use an index are referred to as _____

a) Index scans
b) Search scans
c) Primary scans
d) Equality scans

289. Sorting of relations that do not fit in memory is called as _____

a) Internal sorting
b) External sorting
c) Overflow sorting
d) Overload sorting

290. A selection of the form satisfying the intersection of all records satisfying individual simple conditions is

a) Conjunctive selection

b) Disjunctive selection

c) Negation

d) None of the mentioned

291. A selection of the form satisfying the union of all records satisfying individual simple conditions is

a) Conjunctive selection

b) Disjunctive selection

c) Negation

d) None of the mentioned

292. A selection of the form giving all the records not satisfying simple individual conditions is _____

a) Conjunctive selection

b) Disjunctive selection

c) Negation

d) None of the mentioned

293. Which of the following can be implemented?

a) Conjunctive selection using one index

b) Conjunctive selection using composite index

c) Conjunctive selection by intersection of identifiers

d) All of the mentioned

294. A join of the form r ⋈r.A=s.B s is called as

a) Equi join

b) Left outer join

c) Right outer join

d) Full outer join

295. If nested loop join is done on a per block basis rather than on a per tuple basis, it is called as

a) Equi join

b) Hash join

c) Nested loop join

d) Block nested loop join

296. The merge join can be used to compute

a) Natural joins

b) Equi joins

c) Both the mentioned

d) None of the mentioned

297. The _____ merges the sorted relation with leaf entries of the secondary B+ tree index.

a) Merge join algorithm

b) Hybrid merge join algorithm

c) Hash join algorithm

d) Hybrid Hash join algorithm

298. The splitting of input until each partition of the build input fits the memory is called as _____

a) Temporary partitioning

b) Block partitioning

c) Recursive partitioning

d) Byte partitioning

299. Overflow resolution is performed when,

a) A hash index overflow is detected

b) Extra hash indices are to be added

c) When the number of partitions are to be increased

d) None of the mentioned

300. Which of the following is not a set operation

a) Union

b) Intersection

c) And operation

d) Set difference

301. Which of the following joins preserves the tuples of the relation on the left side of the operator?

a) Left outer join

b) Natural join

c) Right outer join

d) None of the mentioned

302. State true or false: The aggregation functions can be implemented in the same way as that of duplicate elimination.

a) True

b) False

303. If the results of one operation are passed on to the other, it is called as _____

a) Chain

b) Pipeline

c) Materialized

d) Tree

304. The result of each intermediate operation are created and then are used for valuation of the next level operations, this evaluation is called as _____

a) Chain evaluation

b) Pipeline evaluation

c) Materialized evaluation

d) Demand driven evaluation

305. If the system makes repeated requests for tuples from the operation at the top of the table, it is called as _____

a) Demand driven pipeline

b) Producer driven pipeline

c) Query driven pipeline

d) None of the mentioned

306. If the operations do not wait to produce tuples, then it is called as _____

a) Demand driven pipeline

b) Producer driven pipeline

c) Query driven pipeline

d) None of the mentioned

307. State true or false: Sorting is an inherently blocking operation

a) True

b) False

308. State true or false: Join is an inherently blocking operation

a) True

b) False

309. Which of the following techniques does not exist?

a) Pipelined join technique

b) Left pipelined join technique

c) Right pipelined join technique

d) None of the mentioned

310. State true or false: Hybrid hash join is partially pipelined on the probe relation

a) True

b) False

311. The usage of two buffers, with one continuing execution of the algorithm while the other is written is called as _____

a) Double execution

b) Multi tasking

c) Double buffering

d) Double algorithm

312. Which of the following functions does an iterator not provide

a) Open()

b) Next()

c) Close()

d) Wait()

313. If on every legal database instant, the two expressions generate the same set of tuples, the expressions are called as

a) Equal

b) Equivalent

c) Similar

d) Identical

314. State true or false: Selection operations are commutative

a) True

b) False

315. Which of the following operations are associative

a) Natural joins

b) Theta joins

c) Both the mentioned

d) None of the mentioned

316. Which of the following set operations is not commutative?

a) Union

b) Intersection

c) Set difference

d) None of the mentioned

317. State true or false: The projection operation does not distribute over the union operation

a) True

b) False

318. If no rule can be derived from any combination of others then the set of rules is said to be _____

a) Primitive

b) Axiomatic

c) Minimal

d) Atomic

319. Theta join operations are

a) Commutative

b) Associative

c) Distributive under projection

d) All of the mentioned

320. Which of the following operations is associative

a) Set union

b) Set intersection

c) Set difference

d) Theta join

321. Which of the following set operations does the selection operation distribute over?

a) Union

b) Intersection

c) Difference

d) All of the mentioned

322. State true or false: Multiple equivalence rules can be used one after the other on a query

a) True

b) False

323. Which of the following information does the database system catalog store?

a) Number of tuples

b) Number of blocks

c) Size of a tuple of a relation

d) All of the mentioned

324. Most databases store the distribution of values for each attribute as a _____

a) Histogram

b) Pie chart

c) Line graph

d) None of the mentioned

325. What is the function of the equi-width histogram?

a) Adjusts boundaries of the ranges such that each range has the same number of values

b) Divides range of values into equal sized ranges

c) Divides the range of values into ideally sized ranges

d) Does not divide the range of values.

326. What kind of a sample must be used for statistical analysis?

a) A random sample
b) A sample having excessive representation of a relation
c) A sample having suppressive representation of a relation
d) None of the mentioned

327. The _____ SQL command generates statistics on a particular relation

a) Statistic
b) Analyze
c) Modify
d) Runstats

328. The union of all records satisfying the individual simple conditions Oi is called as _____

a) Conjunctive selection
b) Disjunctive selection
c) Negation
d) None of the mentioned

329. The intersection of all records satisfying the individual simple conditions Oi is called as _____

a) Conjunctive selection
b) Disjunctive selection
c) Negation
d) None of the mentioned

330. State true or false: Estimation of the size of the result of a join is not possible

a) True

b) False

331. Size estimation can be done for which of the following processes?

a) Projection

b) Aggregation

c) Set operation

d) All of the mentioned

332. The size of a _____ is simply V(A,r) where r is the relation and A is a distinct value

a) Projection

b) Outer join

c) Aggregation

d) Inner join

333. A _____ explores the space of all query evaluation plans that are equivalent to a given query.

a) Cost based optimizer

b) Space based optimizer

c) Time based optimizer

d) None of the mentioned

334. What is the disadvantage of cost based optimizers?

a) It is too expensive

b) It is inefficient in producing results

c) It does not perform the desired function

d) None of the mentioned

335. A particular sort order is said to be _____ sort order if it could be useful for a later operation.

a) Interesting

b) Reusable

c) Efficient

d) Good

336. The rule that allows transformation of a logical operation to a physical operation is called

a) Logical equivalence rule

b) Physical equivalence rule

c) Memory equivalence rule

d) None of the mentioned

337. State true or false: Making multiple copies of the same sub-expressions must be avoided

a) True

b) False

338. Optimizers use _____ to reduce the cost of optimization.

a) Analyzers

b) Statistics

c) Heuristics

d) Caches

339. The join orders where the right operand of each join is in one of the initial relations are called as _____

a) Right deep join orders

b) Left deep join orders

c) Outer join orders

d) None of the mentioned

340. Caching and reuse of query plans is called as _____

a) Query caching

b) Plan caching

c) Plan memorizing

d) None of the mentioned

341. What technique is used for the evaluation of a query with a nested sub query?

a) Caching

b) Decorrelated evaluation

c) Correlated evaluation

d) Time based evaluation

342. The process of replacing a nested query with a query with a join is known as _____

a) Correlation

b) Decorrelation

c) Cache handling

d) Join replacement

343. A view whose contents are computed and stored is called as _____

a) Storage view

b) Backup view

c) Materialized view

d) Advanced view

344. The task of keeping a view up to date with the underlying data is called as _____

a) View handling
b) View maintenance
c) View management
d) None of the mentioned

345. What is incremental materialized view maintenance?

a) Modifying all the parts of the view
b) Modifying only the affected parts of the view
c) Not modifying the view
d) None of the mentioned

346. Which of the following is a type of materialized view management?

a) Incremental view management
b) Immediate view management
c) Deferred view management
d) All of the mentioned

347. What are differentials in view management?

a) The differences between relations
b) The changes made to a relation
c) The changes made to an expression
d) More than one of the mentioned

348. The sequence of queries that reflect the typical load on the system are known as _____

a) Efficacies
b) Workload
c) Selection
d) Balancers

349. The problem of an update affecting the execution of a query associated with the update is known as the _____

a) Updation problem
b) Incremental problem
c) Halloween problem
d) Optimization problem

350. Reducing the complexity of complex queries by similarly handling sub-queries is known as _____

a) Complex query handling
b) Multi query optimization
c) Complex query optimization
d) Parametric query optimization

351. Which of the following is a multi-query optimization technique

a) Shared scan optimization
b) Parametric query optimization
c) Index optimization
d) All of the mentioned

352. If a query is optimized without providing specific values for its parameters the technique is called _____

a) Complex query handling

b) Multi query optimization

c) Complex query optimization

d) Parametric query optimization

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b) Multi query optimization
c) Complex query optimization
d) Parametric query optimization

363. Collections of operations that form a single logical unit of work are called _____

a) Views
b) Networks
c) Units
d) Transactions

364. The “all-or-none” property is commonly referred to as _____

a) Isolation

b) Durability

c) Atomicity

d) None of the mentioned

365. Which of the following is a property of transactions?

a) Atomicity

b) Durability

c) Isolation

d) All of the mentioned

366. Execution of translation in isolation preserves the _____ of a database

a) Atomicity

b) Consistency

c) Durability

d) All of the mentioned

367. Which of the following is not a property of a transaction?

a) Atomicity

b) Simplicity

c) Isolation

d) Durability

368. Which of the following systems is responsible for ensuring durability?

a) Recovery system

b) Atomic system

c) Concurrency control system

d) Compiler system

369. Which of the following systems is responsible for ensuring isolation?

a) Recovery system

b) Atomic system

c) Concurrency control system

d) Compiler system

370. State true or false: Information residing in the volatile storage does not usually survive system crashes

a) True

b) False

371. A transaction that has not been completed successfully is called as _____

a) Compensating transaction

b) Aborted transaction

c) Active transaction

d) Partially committed transaction

372. Which of the following is not a transaction state?

a) Active

b) Partially committed

c) Failed

d) Compensated

373. I and J are _____ if they are operations by different transactions on the same data item, and at least one of them is a write operation.

a) Conflicting

b) Overwriting

c) Isolated

d) Durable

374. If a schedule S can be transformed into a schedule S' by a series of swaps of non-conflicting instructions, then S and S' are

a) Non conflict equivalent

b) Equal

c) Conflict equivalent

d) Isolation equivalent

375. A schedule is _____ if it is conflict equivalent to a serial schedule.

a) Conflict serializable

b) Conflicting

c) Non serializable

d) None of the mentioned

376. The set of _____ in a precedence graph consists of all the transactions participating in the schedule

a) Vertices

b) Edges

c) Directions

d) None of the mentioned

377. A _____of the transactions can be obtained by finding a linear order consistent with the partial order of the precedence graph.

a) Serializability order

b) Direction graph

c) Precedence graph

d) Scheduling scheme

378. State true or false: If I = read(Q) and J = read(Q) then the order of I and J does not matter.

a) True

b) False

379. State true or false: If I = read(Q) and J = write(Q) then the order of I and J does not matter.

a) True

b) False

380. Which of the following is the most expensive method?

a) Timestamping

b) Plain locking

c) Predicate locking

d) Snapshot isolation

381. A transaction that performs only one operation is called as a _____

a) Partial schedule

b) Complete schedule

c) Dependent schedule

d) Independent schedule

382. The phenomenon in which one failure leads to a series of transaction rollbacks is called as _____

a) Cascading rollback

b) Cascadeless rollback

c) Cascade cause

d) None of the mentioned

383. State true or false: Every cascadeless schedule is also recoverable

a) True

b) False

384. A _____ is one where, for each pair of transactions Ti and Tj such that Tj reads a data item previously written by Ti , the commit operation of Ti appears before the commit operation of Tj

a) Partial schedule

b) Dependent schedule

c) Recoverable schedule

d) None of the mentioned

385. State true or false: Transactions can only run serially

a) True

b) False

386. Which of the following are the advantages of transaction concurrency?

a) Increased throughput

b) Increased utilization

c) Reduces average response time

d) All of the mentioned

387. The average time for a transaction to be completed after it has been submitted is called as _____

a) Minimum response time

b) Average response time

c) Average reaction time

d) Minimum reaction time

388. If a schedule is equivalent to a serial schedule, it is called as a _____

a) Serializable schedule

b) Equivalent schedule

c) Committed schedule

d) None of the mentioned

389. Which of the following is not a type of a schedule?

a) Partial schedule

b) Dependent schedule

c) Recoverable schedule

d) None of the mentioned

390. Which of the following is a transaction isolation level as specified by SQL standard?

a) Serializable

b) Repeatable read

c) Read committed

d) All of the mentioned

391. State true or false: Serializable level may allow both serializable and non-serializable executions

a) True

b) False

392. _____ allows only committed data to be read and further requires that no other transaction is allowed to update it between two reads of a data item by a transaction.

a) Read uncommitted

b) Serializable

c) Repeatable read

d) Read committed

393. _____ allows only committed data to be read, but does not require repeatable reads

a) Read uncommitted

b) Serializable

c) Repeatable read

d) Read committed

394. _____ allows uncommitted data to be read

a) Read uncommitted

b) Serializable

c) Repeatable read

d) Read committed

395. State true or false: All the isolation levels disallow dirty writes

a) True

b) False

396. When is a timestamp allotted

a) When execution begins

b) When execution is taking place

c) When execution is completed

d) None of the mentioned

397. In _____ isolation each transaction is given its own version of the database

a) Timestamp

b) Snapshot

c) Lock based

d) All of the mentioned

398. What is the disadvantage of locking?

a) Does not control concurrency

b) Is not atomic

c) Is not durable

d) Has a poor degree of concurrency

399. If a transaction has obtained a _____ lock, it can read but cannot write on the item

a) Shared mode

b) Exclusive mode

c) Read only mode

d) Write only mode

400. If a transaction has obtained a _____ lock, it can both read and write on the item

a) Shared mode

b) Exclusive mode

c) Read only mode

d) Write only mode

401. A transaction can proceed only after the concurrency control manager _____ the lock to the transaction

a) Grants

b) Requests

c) Allocates

d) None of the mentioned

402. If a transaction can be granted a lock on an item immediately in spite of the presence of another mode, then the two modes are said to be _____

a) Concurrent

b) Equivalent

c) Compatible

d) Executable

403. A transaction is made to wait until all _____ locks held on the item are released

a) Compatible

b) Incompatible

c) Concurrent

d) Equivalent

404. State true or false: It is not necessarily desirable for a transaction to unlock a data item immediately after its final access

a) True

b) False

405. The situation where no transaction can proceed with normal execution is known as _____

a) Road block

b) Deadlock

c) Execution halt

d) Abortion

406. The protocol that indicates when a transaction may lock and unlock each of the data items is called as _____

a) Locking protocol

b) Unlocking protocol

c) Granting protocol

d) Conflict protocol

407. If a transaction Ti may never make progress, then the transaction is said to be _____

a) Deadlocked

b) Starved

c) Committed

d) Rolled back

408. The two phase locking protocol consists which of the following phases?

a) Growing phase

b) Shrinking phase

c) More than one of the mentioned

d) None of the mentioned

409. A system is in a _____ state if there exists a set of transactions in which every transaction is waiting for another transaction in the set.

a) Deadlock

b) Starved

c) Isolated

d) None of the mentioned

410. Which of the following is not a method in deadlock handling

a) Deadlock prevention

b) Deadlock detection

c) Deadlock recovery

d) Deadlock distribution

411. Deadlocks can be prevented using

a) Preemption and transaction rollbacks

b) Wait and die scheme

c) Wound-wait scheme

d) All of the mentioned

412. State true or false: Wait die scheme is a non-preemptive technique

a) True

b) False

413. Lock timeouts have which of the following advantages?

a) Unnecessary rollbacks do not occur

b) Transactions do not starve

c) It is easy to implement

d) All of the mentioned

414. The _____ graph describes deadlocks precisely

a) Wound wait graph

b) Wait die graph

c) Wait for graph

d) None of the mentioned

415. How do we generally recover from a deadlock?

a) By aborting all the transactions

b) By rolling back all the transactions

c) By rolling back only a selected number of transactions

d) None of the mentioned

416. State true or false: Partial rollback is not possible.

a) True

b) False

417. Which of the following steps must be taken while choosing a victim?

a) Avoiding starvation

b) Number of transactions involved in rollback

c) Data items used by the transaction

d) All of the mentioned

418. Which of the following cannot be used to implement a timestamp

a) System clock

b) Logical counter

c) External time counter

d) None of the mentioned

419. A logical counter is _____ after a new timestamp has been assigned

a) Incremented
b) Decremented
c) Doubled
d) Remains the same

420. W-timestamp(Q) denotes?

a) The largest timestamp of any transaction that can execute write(Q) successfully
b) The largest timestamp of any transaction that can execute read(Q) successfully
c) The smallest timestamp of any transaction that can execute write(Q) successfully
d) The smallest timestamp of any transaction that can execute read(Q) successfully

421. R-timestamp(Q) denotes?

a) The largest timestamp of any transaction that can execute write(Q) successfully
b) The largest timestamp of any transaction that can execute read(Q) successfully
c) The smallest timestamp of any transaction that can execute write(Q) successfully
d) The smallest timestamp of any transaction that can execute read(Q) successfully

422. A _____ ensures that any conflicting read and write operations are executed in timestamp order

a) Organizational protocol
b) Timestamp ordering protocol
c) Timestamp execution protocol
d) 802-11 protocol

423. The default timestamp ordering protocol generates schedules that are

a) Recoverable

b) Non-recoverable

c) Starving

d) None of the mentioned

424. State true or false: The Thomas write rule has a greater potential concurrency than the timestamp ordering protocol

a) True

b) False

425. Which of the following timestamp based protocols generates serializable schedules?

a) Thomas write rule

b) Timestamp ordering protocol

c) Validation protocol

d) None of the mentioned

426. In timestamp ordering protocol, suppose that the transaction Ti issues read(Q) and TS(Ti)<W-timestamp(Q), then

a) Read operation is executed

b) Read operation is rejected

c) Write operation is executed

d) Write operation is rejected

427. In timestamp ordering protocol, suppose that the transaction Ti issues write(Q) and TS(Ti)<W-timestamp(Q), then

a) Read operation is executed

b) Read operation is rejected

c) Write operation is executed

d) Write operation is rejected

428. The _____ requires each transaction executes in two or three different phases in its lifetime

a) Validation protocol

b) Timestamp protocol

c) Deadlock protocol

d) View protocol

429. During _____ phase, the system reads data and stores them in variables local to the transaction.

a) Read phase

b) Validation phase

c) Write phase

d) None of the mentioned

430. During the _____ phase the validation test is applied to the transaction

a) Read phase

b) Validation phase

c) Write phase

d) None of the mentioned

431. During the _____ phase, the local variables that hold the write operations are copied to the database

a) Read phase

b) Validation phase

c) Write phase

d) None of the mentioned

432. Read only operations omit the _____ phase

a) Read phase

b) Validation phase

c) Write phase

d) None of the mentioned

433. Which of the following timestamp is used to record the time at which the transaction started execution?

a) Start(i)

b) Validation(i)

c) Finish(i)

d) Write(i)

434. Which of the following timestamps is used to record the time when a transaction has finished its read phase?

a) Start(i)

b) Validation(i)

c) Finish(i)

d) Write(i)

435. Which of the following timestamps is used to record the time when a database has completed its write operation?

a) Start(i)

b) Validation(i)

c) Finish(i)

d) Write(i)

436. State true or false: Locking and timestamp ordering force a wait or rollback whenever a conflict is detected.

a) True

b) False

437. State true or false: We determine the serializability order of validation protocol by the validation ordering technique

a) True

b) False

438. In _____ schemes, each write operation creates a new version of Q

a) Multiversion

b) Snapshot isolation

c) Lock based

d) Timestamp

439. If the first update is overwritten by a second, it is called as a _____ update

a) Useful

b) Overlapping

c) Lost

d) Concurrent

440. State true or false: Snapshot isolation prevents lost updates

a) True

b) False

441. Which of the following is a variant of snapshot isolation

a) First committer wins

b) First updater wins

c) More than one of the mentioned

d) None of the mentioned

442. Under _____ the system uses locking mechanism that applies only to updates

a) First updater wins

b) First committer wins

c) First writer wins

d) None of the mentioned

443. The situation in which each pair of transactions has read a data written by the other, but there is no data written by the transactions is called as _____

a) Deadlock

b) Read skew

c) Deadlock skew

d) Write skew

444. Oracle uses _____ for the serializable isolation level

a) Multiversion scheme

b) Timestamp protocol

c) Lock based protocol

d) Snapshot isolation

445. State true or false: Snapshot isolation has low overhead

a) True

b) False

446. In _____ no two aborts occur unless two concurrent transactions update the same data item.

a) Multiversion scheme

b) Timestamp protocol

c) Lock based protocol

d) Snapshot isolation

447. Which of the following transactions can multiversion two phase locking protocol not differentiate.

a) Read only transactions

b) Update transactions

c) All of the mentioned

d) Double operator transactions

448. _____ deletes a data item from a database

a) Delete(Q)

b) Insert(Q)

c) Drop(Q)

d) None of the mentioned

449. Which of the following does not lock the entire index

a) Phantom locking

b) Phantom problem

c) Index locking

d) Index problem

450. Which of the following is included in the operational mechanism of the index locking protocol?

a) Every transaction must have at least one index

b) A transaction that performs a lookup must acquire a shared lock on all the index leaf nodes that it accesses

c) The rule of the two phase locking mechanism must be observed

d) All of the mentioned

451. _____ is a form of two degree consistency designed for programs that iterate over tuples of a relation by using cursors.

a) Cursor stability

b) Serializability

c) Non-serializability

d) Predicate locking

452. Transactions that involve user interactions are called _____

a) Validations

b) Conversations

c) Interfaces

d) None of the mentioned

453. State true or false: Key value locking provides increased concurrency

a) True

b) False

454. To prevent the phantom phenomenon, _____ is used

a) Key value locking

b) Next key locking

c) Previous key locking

d) None of the mentioned

455. Which of the following does cursor stability ensure

a) The tuple that is currently being processed by the iteration is locked in shared mode

b) The tuple that is currently being processed is not locked in shared mode

c) Any modified tuples are not locked in exclusive mode

d) None of the mentioned

456. State true or false: Exclusive locks are held until transaction commit in degree two consistency

a) True

b) False

457. Which of the following can cause a transaction failure

a) Logical error

b) System error

c) More than one of the mentioned

d) None of the mentioned

458. If the transaction can no longer continue with its normal execution because of some internal condition, it is called as a _____

a) Logical error

b) System error

c) System crash

d) None of the mentioned

459. If a system has entered and undesirable state due to which it is unable to continue with normal execution, it is called as _____

a) Logical error

b) System error

c) System crash

d) None of the mentioned

460. If there is a hardware malfunction or a bug in the database that causes the loss of content of volatile storage, it is called as _____

a) Logical error

b) System error

c) System crash

d) None of the mentioned

461. The assumption that the hardware errors bring the system to a halt is called as _____

a) Halter assumption

b) Phantom assumption

c) Fail-stop assumption

d) Disk failure

462. Which of the following is not a classification of storage

a) Volatile storage

b) Nonvolatile storage

c) Stable storage

d) None of the mentioned

463. If a failure has occurred in the midst of a transfer, it is called as _____

a) Successful completion

b) Partial failure

c) Total failure

d) None of the mentioned

464. State true or false: The destination block has incorrect information in case of a total failure

a) True

b) False

465. The partitions of the database into fixed length storage units are called as _____

a) Blocks

b) Tuples

c) Relations

d) None of the mentioned

466. The blocks residing on the disk are referred to as _____

a) Physical blocks

b) Buffer blocks

c) Disk blocks

d) Disk buffer

467. The most widely used structure for recording database modification is called as _____

a) Log

b) List

c) Queue

d) Stack

468. An update log record describes a _____ database write

a) Single

b) Double

c) Triple

d) Quadruple

469. Which of the following fields does the update log record have?

a) Transaction identifier

b) Data-item identifier

c) Old value

d) All of the mentioned

470. The unique identifier of the transaction that performed the write operation is called as _____

a) Transaction identifier

b) Data-item identifier

c) Old value

d) New value

471. The value of the data item prior to the write is called as _____

a) Transaction identifier

b) Data-item identifier

c) Old value

d) New value

472. If a transaction does not modify the database until it has committed it is said to use a _____ modification technique

a) Deferred

b) Immediate

c) More than one of the mentioned

d) None of the mentioned

473. We say that a transaction has been _____ when its commit log record has been output to stable storage.

a) Locked

b) Completed

c) Committed

d) Released

474. State true or false: Using checkpoints reduces overhead

a) True

b) False

475. A _____ checkpoint is a checkpoint where transactions are allowed to perform updates even while buffer blocks are being written out.

a) Temporary

b) Fuzzy

c) Permanent

d) Recovery

476. If the database modifications occur while the transaction is still active, the transaction is said to use the _____ modification technique

a) Deferred

b) Immediate

c) More than one of the mentioned

d) None of the mentioned

477. The remote backup site is sometimes also called the

a) Primary Site

b) Secondary Site

c) Tertiary Site

d) None of the mentioned

478. Remote backup system must be _____ with the primary site.

a) Synchronised

b) Separated

c) Connected

d) Detached but related

479. The backup is taken by

a) Erasing all previous records

b) Entering the new records

c) Sending all log records from primary site to the remote backup site

d) Sending selected records from primary site to the remote backup site

480. When the _____ the backup site takes over processing and becomes the primary.

a) Secondary fails

b) Backup recovers

c) Primary fails

d) None of the mentioned

View Answer

481. The simplest way of transferring control is for the old primary to receive _____ from the old backup site.

a) Undo logs

b) Redo Logs

c) Primary Logs

d) All of the mentioned

482. The time to process the remote backup can be reduced by

a) Flags

b) Breakpoints

c) Redo points

d) Checkpoints

View Answer

483. A _____ configuration can make takeover by the backup site almost instantaneous.

a) Hot-spare

b) Remote

c) Direct

d) Spare

484. A transaction commits as soon as its commit log record is written to stable storage at the primary site. This is

a) One Safe

b) Two Safe

c) Two-very Safe

d) Very Safe

View Answer

485. A transaction commits as soon as its commit log record is written to stable storage at the primary and the backup site. This is

a) One Safe

b) Two Safe

c) Two-very Safe

d) Very Safe

486. If only the primary is active, the transaction is allowed to commit as soon as its commit log record is written to stable storage at the primary site. This is

a) One Safe

b) Two Safe

c) Two-very Safe

d) Very Safe

487. Consider money is transferred from (1)account-A to account-B and (2) account-B to account-A. Which of the following form a transaction?

a) Only 1

b) Only 2

c) Both 1 and 2 individually

d) Either 1 or 2

488. A transaction is delimited by statements (or function calls) of the form _____

a) Begin transaction and end transaction

b) Start transaction and stop transaction

c) Get transaction and post transaction

d) Read transaction and write transaction

489. Identify the characteristics of transactions

a) Atomicity

b) Durability

c) Isolation

d) All of the mentioned

490. Which of the following has “all-or-none” property?

a) Atomicity

b) Durability

c) Isolation

d) All of the mentioned

491. The database system must take special actions to ensure that transactions operate properly without interference from concurrently executing database statements. This property is referred to as

a) Atomicity

b) Durability

c) Isolation

d) All of the mentioned

492. The property of a transaction that persists all the crashes is

a) Atomicity

b) Durability

c) Isolation

d) All of the mentioned

493. _____ states that only valid data will be written to the database.

a) Consistency

b) Atomicity

c) Durability

d) Isolation

494. Transaction processing is associated with everything below except

a) Producing detail summary or exception reports

b) Recording a business activity

c) Confirming an action or triggering a response

d) Maintaining a data

495. The Oracle RDBMS uses the ____ statement to declare a new transaction start and its properties.

a) BEGIN

b) SET TRANSACTION

c) BEGIN TRANSACTION

d) COMMIT

496. ____ means that the data used during the execution of a transaction cannot be used by a second transaction until the first one is completed.

a) Consistency

b) Atomicity

c) Durability

d) Isolation

497. Which of the following gives a logical structure of the database graphically?

a) Entity-relationship diagram

b) Entity diagram

c) Database diagram

d) Architectural representation

498. The entity relationship set is represented in E-R diagram as

a) Double diamonds

b) Undivided rectangles

c) Dashed lines

d) Diamond

499. The Rectangles divided into two parts represents

a) Entity set

b) Relationship set

c) Attributes of a relationship set

d) Primary key

500. Consider a directed line(->) from the relationship set advisor to both entity sets instructor and student. This indicates _____ cardinality

a) One to many

b) One to one

c) Many to many

d) Many to one

501. We indicate roles in E-R diagrams by labeling the lines that connect _____ to _____

a) Diamond , diamond

b) Rectangle, diamond

c) Rectangle, rectangle

d) Diamond, rectangle

502. An entity set that does not have sufficient attributes to form a primary key is termed a _____

a) Strong entity set

b) Variant set

c) Weak entity set

d) Variable set

View Answer

503. For a weak entity set to be meaningful, it must be associated with another entity set, called the

a) Identifying set

b) Owner set

c) Neighbour set

d) Strong entity set

504. Weak entity set is represented as

a) Underline

b) Double line

c) Double diamond

d) Double rectangle

505. If you were collecting and storing information about your music collection, an album would be considered a(n) _____

a) Relation

b) Entity

c) Instance

d) Attribute

506. What term is used to refer to a specific record in your music database; for instance; information stored about a specific album?

a) Relation

b) Instance

c) Table

d) Column

507. Let us consider phone_number ,which can take single or several values . Treating phone_numberas an _____ permits instructors to have several phone numbers (including zero) associated with them.

a) Entity

b) Attribute

c) Relation

d) Value

508. The total participation by entities is represented in E-R diagram as

a) Dashed line

b) Double line

c) Double rectangle

d) Circle

509. Given the basic ER and relational models, which of the following is INCORRECT?

a) An attribute of an entity can have more than one value

b) An attribute of an entity can be composite

c) In a row of a relational table, an attribute can have more than one value

d) In a row of a relational table, an attribute can have exactly one value or a NULL value

510. Which of the following indicates the maximum number of entities that can be involved in a relationship?

a) Minimum cardinality

b) Maximum cardinality

c) ERD

d) Greater Entity Count

511. In E-R diagram generalization is represented by

a) Ellipse

b) Dashed ellipse

c) Rectangle

d) Triangle

View Answer

512. What is a relationship called when it is maintained between two entities?

a) Unary

b) Binary

c) Ternary

d) Quaternary

View Answer

513. Which of the following is a low level operator?

a) Insert

b) Update

c) Delete

d) Directory

514. Key to represent relationship between tables is called

a) Primary key

b) Secondary Key

c) Foreign Key

d) None of the mentioned

View Answer

515. A window into a portion of a database is

a) Schema

b) View

c) Query

d) Data dictionary

View Answer

516. A primary key is combined with a foreign key creates

a) Parent-Child relation ship between the tables that connect them

b) Many to many relationship between the tables that connect them

c) Network model between the tables that connect them

d) None of the mentioned

517. The normal form which satisfies multivalued dependencies and which is in BCNF is

a) 4 NF

b) 3 NF

c) 2 NF

d) All of the mentioned

518. Which of the following is a tuple-generating dependencies?

a) Functional dependency

b) Equality-generating dependencies

c) Multivalued dependencies

d) Non-functional dependency

519. The main task carried out in the _____ is to remove repeating attributes to separate tables.

a) First Normal Form

b) Second Normal Form

c) Third Normal Form

d) Fourth Normal Form

520. Which of the normal form is based on multivalued dependencies?

a) First

b) Second

c) Third

d) Fourth

521. Which forms has a relation that possesses data about an individual entity?

a) 2NF

b) 3NF

c) 4NF

d) 5NF

522. If a multivalued dependency holds and is not implied by the corresponding functional dependency, it usually arises from one of the following sources.

a) A many-to-many relationship set

b) A multivalued attribute of an entity set

c) A one-to-many relationship set

d) Both A many-to-many relationship set and A multivalued attribute of an entity set

523. Which of the following has each related entity set has its own schema and there is an additional schema for the relationship set?

a) A many-to-many relationship set

b) A multivalued attribute of an entity set

c) A one-to-many relationship set

d) None of the mentioned

524. In which of the following, a separate schema is created consisting of that attribute and the primary key of the entity set.

a) A many-to-many relationship set

b) A multivalued attribute of an entity set

c) A one-to-many relationship set

d) None of the mentioned

View Answer

525. Fifth Normal form is concerned with

a) Functional dependency

b) Multivalued dependency

c) Join dependency

d) Domain-key

526. In 2NF

a) No functional dependencies (FDs) exist

b) No multivalued dependencies (MVDs) exist

c) No partial FDs exist

d) No partial MVDs exist

527. In the _____ normal form, a composite attribute is converted to individual attributes.

a) First

b) Second

c) Third

d) Fourth

528. A table on the many side of a one to many or many to many relationship must:

a) Be in Second Normal Form (2NF)

b) Be in Third Normal Form (3NF)

c) Have a single attribute key

d) Have a composite key

529. Tables in second normal form (2NF):

a) Eliminate all hidden dependencies

b) Eliminate the possibility of a insertion anomalies

c) Have a composite key

d) Have all non key fields depend on the whole primary key

530. Which-one ofthe following statements about normal forms is FALSE?

a) BCNF is stricter than 3 NF

b) Lossless, dependency -preserving decomposition into 3 NF is always possible

c) Loss less, dependency – preserving decomposition into BCNF is always possible

d) Any relation with two attributes is BCNF

View Answer

531. Functional Dependencies are the types of constraints that are based on_____

a) Key

b) Key revisited

c) Superset key

d) None of the mentioned

View Answer

532. Which is a bottom-up approach to database design that design by examining the relationship between attributes:

a) Functional dependency

b) Database modeling

c) Normalization

d) Decomposition

View Answer

533. Which forms simplifies and ensures that there are minimal data aggregates and repetitive groups:

a) 1NF

b) 2NF

c) 3NF

d) All of the mentioned

534. Which forms has a relation that possesses data about an individual entity:

a) 2NF

b) 3NF

c) 4NF

d) 5NF

535. Which forms are based on the concept of functional dependency:

a) 1NF

b) 2NF

c) 3NF

d) 4NF

536. We can use the following three rules to find logically implied functional dependencies. This collection of rules is called

a) Axioms

b) Armstrong’s axioms

c) Armstrong

d) Closure

537. Which of the following is not Armstrong's Axiom?

a) Reflexivity rule

b) Transitivity rule

c) Pseudotransitivity rule

d) Augmentation rule

View Answer

538. The relation employee(ID,name,street,Credit,street,city,salary) is decomposed into

employee1 (ID, name)

employee2 (name, street, city, salary)

This type of decomposition is called

a) Lossless decomposition

b) Lossless-join decomposition

c) All of the mentioned

d) None of the mentioned

539. Inst_dept (ID, name, salary, dept name, building, budget) is decomposed into

instructor (ID, name, dept name, salary)

department (dept name, building, budget)

This comes under

a) Lossy-join decomposition

b) Lossy decomposition

c) Lossless-join decomposition

d) Both Lossy and Lossy-join decomposition

540. There are two functional dependencies with the same set of attributes on the left side of the arrow:

A->BC

A->B

This can be combined as

a) A->BC

b) A->B

c) B->C

d) None of the mentioned

541. Consider a relation R(A,B,C,D,E) with the following functional dependencies:

ABC -> DE and

D -> AB

The number of superkeys of R is:

a) 2

b) 7

c) 10

d) 12

542. A relation is in _____ if an attribute of a composite key is dependent on an attribute of other composite key.

a) 2NF

b) 3NF

c) BCNF

d) 1NF

543. What are the desirable properties of a decomposition

a) Partition constraint

b) Dependency preservation

c) Redundancy

d) Security

544. R (A,B,C,D) is a relation. Which of the following does not have a lossless join dependency preserving BCNF decomposition?

a) A->B, B->CD

b) A->B, B->C, C->D

c) AB->C, C->AD

d) A->BCD

545. Class (course id, title, dept name, credits, sec id, semester, YEAR, building, room NUMBER, capacity, TIME slot id)

The SET OF functional dependencies that we require TO hold ON class are:

course id->title, dept name, credits

building, room number->capacity

course id, sec id, semester, year->building, room NUMBER, TIME slot id

A candidate KEY FOR this schema IS {course id, sec id, semester, YEAR}

Consider the above conditions. Which of the following relation holds?

a) Course id-> title, dept name, credits

b) Title-> dept name, credits

c) Dept name-> credits

d) Cannot be determined

546. The algorithm that takes a set of dependencies and adds one schema at a time, instead of decomposing the initial schema repeatedly is

a) BCNF algorithm

b) 2NF algorithm

c) 3NF synthesis algorithm

d) 1NF algorithm

View Answer

547. The functional dependency can be tested easily on the materialized view, using the constraints _____.

a) Primary key

b) Null

c) Unique

d) Both Null and Unique

548. Which normal form is considered adequate for normal relational database design?

a) 2NF

b) 5NF

c) 4NF

d) 3NF

View Answer

549. Relation R with an associated set of functional dependencies, F, is decomposed into BCNF. The redundancy (arising out of functional dependencies) in the resulting set of relations is

a) Zero

b) More than zero but less than that of an equivalent 3NF decomposition

c) Proportional to the size of F+

d) Indeterminate

View Answer

550. A table has fields F1, F2, F3, F4, and F5, with the following functional dependencies:

F1->F3

F2->F4

(F1,F2)->F5

in terms of normalization, this table is in

a) 1NF

b) 2NF

c) 3NF

d) None of the mentioned

551. The union operation is represented by

a) ∩

b) U

c) –

d) *

552. The intersection operator is used to get the _____ tuples.

a) Different

b) Common

c) All

d) Repeating

553. The union operation automatically _____ unlike the select clause.

a) Adds tuples

b) Eliminates unique tuples

c) Adds common tuples

d) Eliminates duplicate

View Answer

554. If we want to retain all duplicates, we must write _____ in place of union.

a) Union all

b) Union some

c) Intersect all

d) Intersect some

555. (SELECT course id

FROM SECTION

WHERE semester = 'Fall' AND YEAR= 2009)

EXCEPT

(SELECT course id

FROM SECTION

WHERE semester = 'Spring' AND YEAR= 2010);

This query displays

a) Only tuples from second part

b) Only tuples from the first part which has the tuples from second part

c) Tuples from both the parts

d) Tuples from first part which do not have second part

556. For like predicate which of the following is true.

i) % matches zero OF more characters.

ii) _ matches exactly one CHARACTER.

a) i-only

b) ii-only

c) i & ii

d) None of the mentioned

557. The number of attributes in relation is called as its

a) Cardinality

b) Degree

c) Tuples

d) Entity

558. _____ clause is an additional filter that is applied to the result.

a) Select

b) Group-by

c) Having

d) Order by

View Answer

559. _____ joins are SQL server default

a) Outer

b) Inner

c) Equi

d) None of the mentioned

560. The _____ is essentially used to search for patterns in target string.

a) Like Predicate

b) Null Predicate

c) In Predicate

d) Out Predicate

561. A _____ indicates an absent value that may exist but be unknown or that may not exist at all.

a) Empty tuple

b) New value

c) Null value

d) Old value

562. If the attribute phone number is included in the relation all the values need not be entered into the phone number column. This type of entry is given as

a) 0

b) –

c) Null

d) Empty space

563. The predicate in a where clause can involve Boolean operations such as and. The result of true and unknown is_____ false and unknown is _____ while unknown and unknown is _____

a) Unknown, unknown, false

b) True, false, unknown

c) True, unknown, unknown

d) Unknown, false, unknown

564. SELECT name

FROM instructor

WHERE salary IS NOT NULL;

Selects

a) Tuples with null value

b) Tuples with no null values

c) Tuples with any salary

d) All of the mentioned

565. In an employee table to include the attributes whose value always have some value which of the following constraint must be used?

a) Null

b) Not null

c) Unique

d) Distinct

566. Using the _____ clause retains only one copy of such identical tuples.

a) Null

b) Unique

c) Not null

d) Distinct

567. CREATE TABLE employee (id INTEGER,name VARCHAR(20),salary NOT NULL);

INSERT INTO employee VALUES (1005,Rach,0);

INSERT INTO employee VALUES (1007,Ross,);

INSERT INTO employee VALUES (1002,Joey,335);

Some of these insert statements will produce an error. Identify the statement.

a) Insert into employee values (1005,Rach,0);

b) Insert into employee values (1002,Joey,335);

c) Insert into employee values (1007,Ross,);

d) None of the mentioned

568. The primary key must be

a) Unique

b) Not null

c) Both Unique and Not null

d) Either Unique or Not null

569. You attempt to query the database with this command:

```
SELECT nvl (100 / quantity, NONE)
   FROM inventory;
```

Why does this statement cause an error when QUANTITY values are null?

a) The expression attempts to divide by a null value

b) The data types in the conversion function are incompatible

c) The character string none should be enclosed in single quotes (‘ ‘)

d) A null value used in an expression cannot be converted to an actual value

570. The result of _____unknown is unknown.

a) Xor

b) Or

c) And

d) Not

571. Aggregate functions are functions that take a _____ as input and return a single value.

a) Collection of values

b) Single value

c) Aggregate value

d) Both Collection of values & Single value

572. SELECT _____FROM instructor WHERE dept name= 'Comp. Sci.';

Which of the following should be used to find the mean of the salary ?

a) Mean(salary)

b) Avg(salary)

c) Sum(salary)

d) Count(salary)

573. SELECT COUNT (____ ID) FROM teaches WHERE semester = 'Spring' AND YEAR = 2010;

If we do want to eliminate duplicates, we use the keyword _____in the aggregate expression.

a) Distinct

b) Count

c) Avg

d) Primary key

574. All aggregate functions except _____ ignore null values in their input collection.

a) Count(attribute)

b) Count(*)

c) Avg

d) Sum

575. A Boolean data type that can take values true, false, and_____

a) 1

b) 0

c) Null

d) Unknown

576. The ____ connective tests for set membership, where the set is a collection of values produced by a select clause. The ____ connective tests for the absence of set membership.

a) Or, in

b) Not in, in

c) In, not in

d) In, or

577. SQL applies predicates in the _____ clause after groups have been formed, so aggregate functions may be used.

a) Group by

b) With

c) Where

d) Having

578. Aggregate functions can be used in the select list or the_____clause of a select statement or subquery. They cannot be used in a _____ clause.

a) Where, having

b) Having, where

c) Group by, having

d) Group by, where

579. The _____ keyword is used to access attributes of preceding tables or subqueries in the from clause.

a) In

b) Lateral

c) Having

d) With

580. Which of the following creates a temporary relation for the query on which it is defined?

a) With

b) From

c) Where

d) Select

581. Subqueries cannot:

a) Use group by or group functions

b) Retrieve data from a table different from the one in the outer query

c) Join tables

d) Appear in select, update, delete, insert statements.

582. Which of the following is not an aggregate function?

a) Avg

b) Sum

c) With

d) Min

583. The EXISTS keyword will be true if:

a) Any row in the subquery meets the condition only

b) All rows in the subquery fail the condition only

c) Both of these two conditions are met

d) Neither of these two conditions is met

584. How can you find rows that do not match some specified condition?

a) EXISTS

b) Double use of NOT EXISTS

c) NOT EXISTS

d) None of the mentioned

585. A _____ is a special kind of a store procedure that executes in response to certain action on the table like insertion, deletion or updation of data.

a) Procedures

b) Triggers

c) Functions

d) None of the mentioned

586. Triggers are supported in

a) Delete

b) Update

c) Views

d) All of the mentioned

587. The CREATE TRIGGER statement is used to create the trigger. THE _____ clause specifies the table name on which the trigger is to be attached. The _____ specifies that this is an AFTER INSERT trigger.

a) for insert, on

b) On, for insert

c) For, insert

d) None of the mentioned

588. What are the after triggers?

a) Triggers generated after a particular operation

b) These triggers run after an insert, update or delete on a table

c) These triggers run after an insert, views, update or delete on a table

d) All of the mentioned

589. The variables in the triggers are declared using

a) –

b) @

c) /

d) /@

590. The default extension for an Oracle SQL*Plus file is:

a) .txt

b) .pls

c) .ora

d) .sql

591. Which of the following is NOT an Oracle-supported trigger?

a) BEFORE

b) DURING

c) AFTER

d) INSTEAD OF

592. What are the different in triggers?

a) Define, Create

b) Drop, Comment

c) Insert, Update, Delete

d) All of the mentioned

593. Triggers _____ enabled or disabled

a) Can be

b) Cannot be

c) Ought to be

d) Always

594. Which prefixes are available to Oracle triggers?

a) : new only

b) : old only

c) Both :new and : old

d) Neither :new nor : old

595. To include integrity constraint in an existing relation use :

a) Create table

b) Modify table

c) Alter table

d) Drop table

596. Which of the following is not an integrity constraint?

a) Not null

b) Positive

c) Unique

d) Check ‘predicate’

597. Domain constraints, functional dependency and referential integrity are special forms of _____

a) Foreign key

b) Primary key

c) Assertion

d) Referential constraint

598. Which of the following is the right syntax for the assertion?

a) Create assertion ‘assertion-name’ check ‘predicate’;

b) Create assertion check ‘predicate’ ‘assertion-name’;

c) Create assertions ‘predicates’;

d) All of the mentioned

599. Data integrity constraints are used to:

a) Control who is allowed access to the data

b) Ensure that duplicate records are not entered into the table

c) Improve the quality of data entered for a specific property (i.e., table column)

d) Prevent users from changing the values stored in the table

600. Which of the following can be addressed by enforcing a referential integrity constraint?

a) All phone numbers must include the area code

b) Certain fields are required (such as the email address, or phone number) before the record is accepted

c) Information on the customer must be known before anything can be sold to that customer

d) When entering an order quantity, the user must input a number and not some text (i.e., 12 rather than ‘a dozen’)

601. The database administrator who authorizes all the new users, modifies the database and takes grants privilege is

a) Super user

b) Administrator

c) Operator of operating system

d) All of the mentioned

602. Which of the following is used to provide privilege to only a particular attribute?

a) Grant select on employee to Amit

b) Grant update(budget) on department to Raj

c) Grant update(budget,salary,Rate) on department to Raj

d) Grant delete to Amit

603. Which of the following statement is used to remove the privilege from the user Amir?

a) Remove update on department from Amir

b) Revoke update on employee from Amir

c) Delete select on department from Raj

d) Grant update on employee from Amir

604. Which of the following is true regarding views?

a) The user who creates a view cannot be given update authorization on a view without having update authorization on the relations used to define the view

b) The user who creates a view cannot be given update authorization on a view without having update authorization on the relations used to define the view

c) If a user creates a view on which no authorization can be granted, the system will allow the view creation request

d) A user who creates a view receives all privileges on that view

605. If we wish to grant a privilege and to allow the recipient to pass the privilege on to other users, we append the _____ clause to the appropriate grant command.

a) With grant

b) Grant user

c) Grant pass privelege

d) With grant option

606. In authorization graph, if DBA provides authorization to u1 which inturn gives to u2 which of the following is correct?

a) If DBA revokes authorization from u1 then u2 authorization is also revoked

b) If u1 revokes authorization from u2 then u2 authorization is revoked

c) If DBA & u1 revokes authorization from u1 then u2 authorization is also revoked

d) If u2 revokes authorization then u1 authorization is revoked

607. Which of the following is used to avoid cascading of authorizations from the user?

a) Granted by current role

b) Revoke select on department from Amit, Satoshi restrict;

c) Revoke grant option for select on department from Amit;

d) Revoke select on department from Amit, Satoshi cascade;

608. The granting and revoking of roles by the user may cause some confusions when that user role is revoked. To overcome the above situation

a) The privilege must be granted only by roles

b) The privilege is granted by roles and users

c) The user role cannot be removed once given

d) By restricting the user access to the roles

609. A _____ consists of a sequence of query and/or update statements.

a) Transaction

b) Commit

c) Rollback

d) Flashback

610. Which of the following makes the transaction permanent in the database?

a) View

b) Commit

c) Rollback

d) Flashback

611. In order to undo the work of transaction after last commit which one should be used?

a) View

b) Commit

c) Rollback

d) Flashback

612. Consider the following action:

TRANSACTION.....

Commit;

ROLLBACK;

What does Rollback do?

a) Undoes the transactions before commit

b) Clears all transactions

c) Redoes the transactions before commit

d) No action

613. In case of any shut down during transaction before commit which of the following statement is done automatically?

a) View

b) Commit

c) Rollback

d) Flashback

614. In order to maintain the consistency during transactions, database provides

a) Commit

b) Atomic

c) Flashback

d) Retain

615. Transaction processing is associated with everything below except

a) Conforming an action or triggering a response

b) Producing detail summary or exception report

c) Recording a business activity

d) Maintaining a data

616. A transaction completes its execution is said to be

a) Committed

b) Aborted

c) Rolled back

d) Failed

617. Which of the following is used to get back all the transactions back after rollback?

a) Commit

b) Rollback

c) Flashback

d) Redo

618. _____ will undo all statements up to commit?

a) Transaction

b) Flashback

c) Rollback

d) Abort

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