R.M.D. ENGINEERING COLLEGE - KAVARAIPETTAI

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CS8492- DATABASE MANAGEMENT SYSTEMS

MCQ Questions with Answers

RELATIONAL DATABASES

1) Which of the following is generally used for performing tasks like creating the structure of the relations, deleting relation?

   a. DML(Data Manipulation Language)
   b. Query
   c. Relational Schema
   d. DDL(Data Definition Language)

Answer: D

2) Which of the following provides the ability to query information from the database and insert tuples into, delete tuples from, and modify tuples in the database?

   a. DML(Data Manipulation Language)
   b. DDL(Data Definition Language)
   c. Query
   d. Relational Schema

 Answer: A

3) The given Query can also be replaced with_____:

SELECT name, course_id

FROM instructor, teaches

WHERE instructor_ID=teaches_id;

   a. Select name,course_id from teaches,instructor where instructor_id=course_id;
   b. Select name, course_id from instructor natural join teaches;
   c. Select name, course_id from instructor;
   d. Select course_id from instructor join teaches;

Answer: B

4) Which one of the following given statements possibly contains the error?

a. select * from emp where empid = 10003;

b. select empid from emp where empid = 10006;

c. select empid from emp;

d. select empid where empid = 1009 and Lastname = 'GELLER';

Answer: D

5) Read the Query carefully:

SELECT emp_name

FROM department

WHERE dept_name LIKE '____Computer Science';

In the above-given Query, which of the following can be placed in the Query's blank portion to select the "dept_name" that also contains Computer Science as its ending string?

  a. &

  b. _

  c. %

  d. $

Answer: C

6) In the following Query, which of the following can be placed in the Query's blank portion to display the salary from highest to lowest amount, and sorting the employs name alphabetically?

SELECT * FROM instructor ORDER BY salary ____ , name ____ ;

  a. Ascending, Descending

  b. Asc, Desc

  c. Desc, Asc

  d. All of the above

Answer: C

7)A Database Management System is a type of _____software.

a. It is a type of system software

b. It is a kind of application software

c. It is a kind of general software

d. Both A and C

Answer: A

8) Which of the following refers to the level of data abstraction that describes exactly how the data actually stored?

a. Conceptual Level

b. Physical Level

c. File Level

d. Logical Level

Answer: B

9) To which of the following the term "DBA" referred?

a. Data Bank Administrator

b. Database Administrator

c. Data Administrator

d. None of the above

Answer: B

10) Rows of a relation are known as the _____.

a. Degree

b. Tuples

c. Entity set

d. All of the above

Answer: B

11) Which one of the following is a type of Data Manipulation Command?

a. Create

b. Alter

c. Delete

d. All of the above

Answer: C

12)Which of the following command is a type of Data Definition language command?

a. Create

b. Update

c. Delete

d. Merge

Answer: A

13) The term "TCL" stands for_____.

a. Ternary Control Language

b. Transmission Control Language

c. Transaction Central Language

d. Transaction Control Language

Answer: D

14) Which of the following is used in the application programs to request data from the database management system?

a. Data Manipulation language

b. Data Definition Language

c. Data Control Language

d. All of the above

Answer: A

15) Which one of the following command is used to delete the existing row in a table?

a. Delete

b. Update

c. Insert

d. None of the above

Answer: A

16)Which of the following commands is used to save any transaction permanently into the database?

    a. Commit

    b. Rollback

    c. Savepoint

    d. None of the above

Answer: A

17) Which one of the following commands is used for removing (or deleting) a relation forms the SQL database?

    a. Delete

    b. Drop

    c. Remove

    d. All of the above

Answer: B

18)Which one of the following commands is used to restore the database to the last committed state?

    a. Savepoint

    b. Rollback

    c. Commit

    d. Both A & B

Answer: B

19)The database management system can be considered as the collection of _____ that enables us to create and maintain the database.

    a. Translators

    b. Programs

    c. Keys

    d. Language activity

Answer: B

20)Which of the following refers collection of the information stored in a database at a specific time?

   a. Independence

   b. Instance of the database

   c. Schema

   d. Data domain

Answer: B

21)The term "SQL" stands for

   a. Standard query language

   b. Sequential query language

   c. Structured query language

   d. Server-side query language

Answer: C

22) The term "Data independence" refers to_____

   a. Data is defined separately and not included in the programs

   b. Programs are not dependent on the logical attributes of the data

   c. Programs are not dependent on the physical attributes of the data

   d. Both B & C

   Answer: C

23)What is the relation calculus?

   a. It is a kind of procedural language

   b. It is a non-procedural language

   c. It is a high-level language

   d. It is Data Definition language

Answer: B

24)Which one of the following refers to the total view of the database content?

a. Conceptual view

b. Physical view

c. Internal view

d. External view

Answer: A

25) For what purpose the DML is provided?

a. Addition of new structure in the database

b. Manipulation & processing of the database

c. Definition of the physical structure of the database system

d. All of the above

Answer: B

26) The architecture of a database can be viewed as the _____

a. One level

b. Two-level

c. Three-level

d. Four level

Answer: C

27)In the relation model, the relation are generally termed as _____

a. Tuples

b. Attributes

c. Rows

d. Tables

Answer: D

28)The Database Management Query language is generally designed for the _____

a. Support end-users who use English like commands

b. Specifying the structure of the database

c. Support in the development of the complex applications software

d. All of the above

Answer: D

29) Which of the following keys is generally used to represent the relationships between the tables?

    a. Primary key

    b. Foreign key

    c. Secondary key

    d. None of the above

Answer: B

30) Which of the following levels is considered as the level closed to the end-users?

    a. Internal Level

    b. External Level

    c. Conceptual Level

    d. Physical Level

Answer: B

31) Which one of the following keyword is used to find out the number of values in a column?

    a. TOTAL

    b. COUNT

    c. SUM

    d. ADD

Answer: B

32) Which one of the following is commonly used to define the overall design of the database?

    a. Application program

    b. Data definition language

    c. Schema

    d. Source code

Answer: C

33)Which one of the following commands is used to modify a column inside a table?

   a. Drop

   b. Update

   c. Alter

   d. Set

Answer: C

34)Dates must be specified in SQL in the format
a) mm/dd/yy
b) yyyy/mm/dd
c) dd/mm/yy
d) yy/dd/mm

Answer: b

35) A _____ on an attribute of a relation is a data structure that allows the database
system to find those tuples in the relation that have a specified value for that attribute
efficiently, without scanning through all the tuples of the relation.
a) Index
b) Reference
c) Assertion
d) Timestamp

Answer: a

36) Create index studentID_index on student(ID);

Here which one denotes the relation for which index is created?
a) StudentID_index
b) ID
c) StudentID
d) Student

Answer: d

37)Which of the following statements creates a new table temp instructor that has the same
schema as an instructor.
a) create table temp_instructor;
b) Create table temp_instructor like instructor;
c) Create Table as temp_instructor;
d) Create table like temp_instructor;

Answer: b

38)The union operation is represented by

a) ∩

b) U

c) –

d) *

Answer: b

39)The intersection operator is used to get the _____ tuples.

a) Different

b) Common

c) All

d) Repeating

Answer: b

40) The union operation automatically _____ unlike the select clause.

a) Adds tuples

b) Eliminates unique tuples

c) Adds common tuples

d) Eliminates duplicate

Answer: d

41) 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

Answer: a

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

Select

b) Group-by

c) Having

d) Order by

Answer: c

43)_____ joins are SQL server default

a) Outer

b) Inner

c) Equi

d) None of the mentioned

Answer: b

44) The _____ is essentially used to search for patterns in target string.
a) Like Predicate
b) Null Predicate
c) In Predicate
d) Out Predicate

Answer: a

45)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

Answer: a

46) 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)

Answer: b

47) 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

Answer: a

48) Which of the following makes the transaction permanent in the database?
a) View
b) Commit
c) Rollback
d) Flashback

Answer: b

49) In order to undo the work of transaction after last commit which one should be used?
a) View
b) Commit
c) Rollback
d) Flashback

Answer: c

50) _____ will undo all statements up to commit?
a) Transaction
b) Flashback
c) Rollback
d) Abort

Answer: c

DATABASE DESIGN

1) What do you mean by one to many relationships?

    a.   One class may have many teachers

    b.   One teacher can have many classes

    c.   Many classes may have many teachers

    d.   Many teachers may have many classes

Answer: B

2)Which of the following refers to the number of tuples in a relation?

    a. Entity

    b. Column

    c. Cardinality

    d. None of the above

Answer: C

3)Which of the following is a top-down approach in which the entity's higher level can be divided into two lower sub-entities?

    a. Aggregation

    b. Generalization

    c. Specialization

    d. All of the above

Answer: C

4)In which one of the following, the multiple lower entities are grouped (or combined) together to form a single higher-level entity?

    a. Specialization

    b. Generalization

c. Aggregation

d. None of the above

Answer: B

5) In a relation database, every tuples divided into the fields are known as the_____.

a. Queries

b. Domains

c. Relations

d. All of the above

Answer: B

6)In the relational table, which of the following can also be represented by the term "attribute"?

a. Entity

b. Row

c. Column

d. Both B &C

Answer: C

7)Which of the following refers to the number of attributes in a relation?

a. Degree

b. Row

c. Column

d. All of the above

Answer: A

8)Which of the following keys is generally used to represents the relationships between the tables?

a. Primary key

b. Foreign key

c. Secondary key

d. None of the above

Answer: B

9) An _____ is a set of entities of the same type that share the same properties, or attributes.
a) Entity set
b) Attribute set
c) Relation set
d) Entity model

Answer: a

10) Entity is a _____
a) Object of relation
b) Present working model
c) Thing in real world
d) Model of relation

Answer: c

11) The descriptive property possessed by each entity set is _____
a) Entity
b) Attribute
c) Relation
d) Model

Answer: b

12) The function that an entity plays in a relationship is called that entity's _____
a) Participation
b) Position
c) Role
d) Instance

Answer: c

13) The attribute *name* could be structured as an attribute consisting of first name, middle initial, and last name. This type of attribute is called
a) Simple attribute
b) Composite attribute

c) Multivalued attribute

d) Derived attribute

Answer: b

14) The attribute AGE is calculated from DATE_OF_BIRTH. The attribute AGE is

a) Single valued

b) Multi valued

c) Composite

d) Derived

Answer: d

15) Not applicable condition can be represented in relation entry as

a) NA

b) 0

c) NULL

d) Blank Space

Answer: c

16) Which of the following can be a multivalued attribute?

a) Phone_number

b) Name

c) Date_of_birth

d) All of the mentioned

Answer: a

17) Which of the following is a single valued attribute

a) Register_number

b) Address

c) SUBJECT_TAKEN

d) Reference

Answer: a

18) In a relation between the entities the type and condition of the relation should be specified.
That is called as_____attribute.

a) Descriptive

b) Derived

c) Recursive

d) Relative

Answer: a

19) A many to many relationship between two entities usually results in how many tables?

a) One

b) Two

c) Three

d) Four

Answer: c

20) Every weak entity set can be converted into a strong entity set by:

a) using generalization

b) adding appropriate attributes

c) using aggregation

d) none of the above

Answer: b

21) E-R modeling technique is a :

a) Top-down approach

b) Bottom-up approach

c) Left-right approach

d) None of the above

Answer: a

22) Every weak entity set can be converted to a strong entity set by :

a) Using generalization

b) Simply adding appropriate attribute

c) Using aggregation

d) Repeating the entity set several times

Answer: a

23) In ER model the details of the entities are hidden from the user. This process is called :

a) generalization
b) specialization
c) abstraction
d) none of these above

Answer: c

24) In a many to one relationship, the primary key of one entity acts as foreign key on which side?

a) On the side where single (one) relationship is defined
b) On the side where many relationship is defined
c) On both the sides
d) Neither of them

Answer: b

25) 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

Answer: b

26) Which of the following is not Armstrong's Axiom?
a) Reflexivity rule
b) Atomicity rule
c) Pseudo transitivity rule
d) Augmentation rule

Answer: b

Answer: d

27) 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

Answer: a

28) Suppose relation R(A,B,C,D,E) has the following functional dependencies:

A -> B

B -> C

BC -> A

A -> D

E -> A

D -> E

Which of the following is not a key?

a) A

b) E

c) B, C

d) D

Answer: c

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

a) First

b) Second

c) Third

d) Fourth

Answer: a

Answer: d

30) 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

Answer: a

31) Which-one of the 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

Answer: c

32) Functional Dependencies are the types of constraints that are based on_____

a) Key

b) Key revisited

c) Superset key

d) None of the mentioned

Answer: a

33) 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

Answer: c

34) Which normal forms simplifies and ensures that there are minimal data aggregates and repetitive groups:

a) 1NF

b) 2NF

c) 3NF

d) All of the mentioned

Answer: c

35) Which normal form has a relation that possesses data about an individual entity:
a) 2NF
b) 3NF
c) 4NF
d) 5NF

Answer: c

36) Which normal form is based on the concept of functional dependency:
a) 1NF
b) 2NF
c) 3NF
d) 4NF

Answer: c

37) Empdt1(empcode, name, street, city, state, pincode).

For any pincode, there is only one city and state. Also, for given street, city and state, there is just one pincode. In normalization terms, empdt1 is a relation in
a) 1 NF only
b) 2 NF and hence also in 1 NF
c) 3NF and hence also in 2NF and 1NF
d) BCNF and hence also in 3NF, 2NF and 1NF

Answer: b

38) What are the desirable properties of a decomposition
a) Partition constraint
b) Dependency preservation
c) Redundancy
d) Security

Answer: b

39) 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

Answer: c

40) Which normal form is considered adequate for normal relational database design?

a) 2NF

b) 5NF

c) 4NF

d) 3NF

Answer: d

41) 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

Answer: b

42) Let R(A,B,C,D,E,P,G) be a relational schema in which the following FDs are known to hold:

AB->CD

DE->P

C->E

P->C

B->G

The relation schema R is
a) in BCNF
b) in 3NF, but not in BCNF
c) in 2NF, but not in 3NF
d) not in 2NF

Answer: d

43) The subset of a super key is a candidate key under what condition?
a) No proper subset is a super key

b) All subsets are super keys
c) Subset is a super key
d) Each subset is a super key

Answer: a

44) An attribute in a relation is a foreign key if the _____ key from one relation is used as an attribute in that relation.
a) Candidate
b) Primary
c) Super
d) Sub

Answer: b

MCQ Questions with Answers

TRANSACTIONS

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

A. Transaction

B. Commit

C. Rollback

D. Flashback

Answer: A

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

A. View

B. Commit

C. Rollback

D. Flashback

Answer: B

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

A. View

B. Commit

C. Rollback

D. Flashback

Answer: C

4. 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

Answer: D

5. 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

Answer: C

6. In order to maintain the consistency during transactions database provides

A. Commit

B. Atomicity

C. Flashback

D. Retain

Answer: B

7. Transaction processing is associated with everything below except

A. Conforming a action or triggering a response

B. Producing detail summary or exception report

C. Recording a business activity

D. Maintaining a data

Answer: A

8. A transaction completes its execution is said to be

A. Committed

B. Aborted

C. Rolled back

D. Failed

Answer: A

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

A. Commit

B. Rollback

C. Flashback

D. Redo

Answer: C

10. _____ will undo all statements up to commit?

A. Transaction

B. Flashback

C. Rollback

D. Abort

Answer: C

11. Collections of operations that form a single logical unit of work are called _____
a) Views
b) Networks
c) Units
d) Transactions

Answer: d

12. The "all-or-none" property is commonly referred to as _____
a) Isolation

b) Durability
c) Atomicity
d) None of the mentioned

Answer: c

13. Which of the following is a property of transactions?
a) Atomicity
b) Durability
c) Isolation
d) All of the mentioned

Answer: d

14. Execution of translation in isolation preserves the _____ of a database
a) Atomicity
b) Consistency
c) Durability
d) All of the mentioned

Answer: b

15. Which of the following is not a property of a transaction?
a) Atomicity
b) Simplicity
c) Isolation
d) Durability

Answer: b

16. Which of the following systems is responsible for ensuring durability?
a) Recovery system
b) Atomic system
c) Concurrency control system
d) Compiler system

Answer: a

17. Which of the following systems is responsible for ensuring isolation?
a) Recovery system
b) Atomic system
c) Concurrency control system
d) Compiler system

Answer: c

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

a) True
b) False

Answer: a

19. A transaction that has not been completed successfully is called as _____
a) Compensating transaction
b) Aborted transaction
c) Active transaction
d) Partially committed transaction

Answer: b

20. Which of the following is not a transaction state?
a) Active
b) Partially committed
c) Failed
d) Compensated

Answer: d

21. The execution sequences in concurrency control are termed as _____
a) Serials
b) Schedules
c) Organizations
d) Time tables

Answer: b

22. The scheme that controls the interaction between executing transactions is called as
_____
a) Concurrency control scheme
b) Multiprogramming scheme
c) Serialization scheme
d) Schedule scheme

Answer: a

23. 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

Answer: a

24. 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

Answer: b

25. 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

Answer: a

26. 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

Answer: c

27. The situation where no transaction can proceed with normal execution is known as _____
a) Road block
b) Deadlock
c) Execution halt
d) Abortion

Answer: b

28. 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

Answer: a

29. If a transaction Ti may never make progress, then the transaction is said to be _____
a) Deadlocked
b) Starved

c) Committed
d) Rolled back

Answer: b

30. 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

Answer: c

31.If a transaction may obtain locks but may not release any locks then it is in _____ phase
a) Growing phase
b) Shrinking phase
c) Deadlock phase
d) Starved phase

Answer: a

32.If a transaction may release locks but may not obtain any locks, it is said to be in _____ phase
a) Growing phase
b) Shrinking phase
c) Deadlock phase
d) Starved phase

Answer: b

33. 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

Answer: a

34. Which of the following is not a method in deadlock handling
a) Deadlock prevention
b) Deadlock detection
c) Deadlock recovery
d) Deadlock distribution

Answer: d

35. Deadlocks can be prevented using
a) Pre-emption and transaction rollbacks
b) Wait and die scheme
c) Wound-wait scheme
d) All of the mentioned

Answer: d

36. State true or false: Wait die scheme is a non-preemptive technique
a) True
b) False

Answer: a

37. 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

Answer: d

38. The _____ graph describes deadlocks precisely
a) Wound wait graph
b) Wait die graph
c) Wait for graph
d) None of the mentioned

Answer: c

39. 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

Answer: d

40. 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

Answer: c

41. The most widely used structure for recording database modification is called as _____
a) Log

b) List
c) Queue
d) Stack

Answer: a

42. An update log record describes a _____ database write
a) Single
b) Double
c) Triple
d) Quadruple

Answer: a

43. 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

Answer: d

44. 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

Answer: a

45. 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

Answer: c

46. 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

Answer: a

47. 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

Answer: c'

48. State true or false: Using checkpoints reduces overhead
a) True
b) False

Answer: a

49. 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

Answer: b

50. 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

Answer: a

MCQ Questions with Answers

IMPLEMENTATION TECHNIQUES

1. Which level of RAID refers to disk mirroring with block striping?

   A. RAID level 1

   B. RAID level 2

   C. RAID level 0

   D. RAID level 3

   Answer: A

2. Which one of the following is a Stripping technique?

   A. Byte level stripping

   B. Raid level stripping

   C. Disk level stripping

   D. Block level stripping

   Answer: D

3. The RAID level which mirroring is done along with stripping is

   A. RAID 1+0

   B. RAID 0

   C. RAID 2

   D. Both a and b

   Answer: D

4. Where performance and reliability are both important, RAID level ____ is used.
   a) 0
   b) 1
   c) 2
   d) 0+1
   Answer: D

5. The method of access which uses key transformation is known as
   a) Direct

b) Hash
c) Random
d) Sequential

Answer: b

6. The physical location of a record is determined by a mathematical formula that transforms a file key into a record location is:
a) B-Tree file
b) Hashed File
c) Indexed File
d) Sequential File

Answer: b

7. An indexing operation
a) Sorts a file using a key
b) Sorts file using two keys
c) Establishes an index for a file
d) Both b and c

Answer: c

8. The index consists of
a) A list of keys
b) Pointers to the master list
c) Both a and b
d) All of the above

Answer: c

9. If you want to organize a file in multiple ways, it is better to _____ the data rather than to sort it.
a) Delete
b) Update
c) Sort key
d) Index

Answer: d

10. The files used for speedy disk search by providing the specialized structures of data are classified as
a) Indexes
b) Glossaries
c) Content specification
d) Listing Documents

Answer: a

11. In database management system, the types of data structures used in indexes are
a) Hash data structures
b) Tree data structures
c) Content and Glossary data structures
d) Both a and b

Answer: d

12. The kind of allocation in which the file blocks contain the pointer to the next blocks of file is classified as
a) Linked allocation
b) Indexed allocation
c) Header allocation
d) Contiguous allocation

Answer: a

13. The hashing technique which allocates fixed number of buckets is classified as
a) Dynamic hashing
b) Static Hashing
c) External hashing
d) Internal Hashing

Answer: c

14. The hashing technique which allows increase or decrease in number of buckets without a need of directory is classified as
a) Global depth hashing
b) Linear hashing
c) Relative hashing
d) Local depth hashing

Answer: b

15. If the global depth is more than local depth then the operation must be performed in directory array is
a) Adding
b) Subtracting
c) Halving
d) Doubling

Answer: c

16. In extendible hashing array of bucket addresses 2^d then d is considered as
  a) Global depth

  b) Global width
  c) Global length

  d) Global multiplier

Answer: a

17. The open addressing, multiple hashing and chaining are all the methods used for

a) Multiple hashing resolution

b) Chaining resolution

c) Collision resolution
d) Address space resolution

Answer: c

18. The record searching technique which is based on the blocks rather than records is called
a) Tertiary search
b) Binary search
c) Ordinary search
d) Ternary search

Answer: b

19. The additional access path added into ordered file is called
a) Ternary index
b) Tertiary index
c) Primary index
d) Secondary index

Answer: c

20. The hash functions that does not maintain order of values of hash field are called
a) Order preserving
b) Pointer preserving
c) Block preserving
d) Record preserving

Answer: a

21. The kind of hashing technique in which a directory of having addresses 2^d is maintained is called
a) Dynamic hashing
b) Extendible hashing
c) Non extendible hashing
d) Static hashing

Answer: b

22. The type of organization in which the records are inserted at the end of stored file is classified as

a) Pile file
b) Linear search file
c) Relative file
d) External file

Answer: a

23. The kind of field with which the record searching is done is classified as
a) Sorting field
b) Relative field
c) Linear field
d) Ordering field

Answer: d

24. The fields which are used to retrieve the related records from other files are called

a) Secondary fields
b) Primary fields
c) Key fields
d) Connecting fields

Answer: d

25. The command in DBMS software which is used to locate records that fulfills the search condition is classified as

a) Find All command
b) Find n
c) Find Ordered command
d) Reorganize command

Answer: a

26. The index which has an entry for some of the key value is classified as
a) Linear index
b) Dense index
c) Non dense index
d) Cluster index

Answer: c

27. The primary indexes, secondary indexes and cluster indexes are all types of
a) Ordered indexes
b) Unordered indexes
c) Linear indexes
d) Relative search indexes

Answer: a

28. In multilevel indexes, the primary index created for its first level is classified as
a) Zero level of multilevel index
b) Third level of multilevel index
c) Second level of multilevel index
d) First level of multilevel index

Answer: c

29. The indexes which specifies address of records on disk with a physical pointer are classified as

a) Structural index
b) Hashing index
c) Physical index
d) Logical index

Answer: c

30. The example of non-dense index is

a) Ternary index
b) Secondary index
c) Primary index
d) Clustering index

Answer: d

31. In the data file, the first record of any of the block is called

a) Anchor record
b) Dense record
c) Non dense record
d) None of above

Answer: a

32. 1. In a B$^+$ tree, both the internal nodes and the leaves have keys.

a)True
b) False

Answer: b

33. Which of the following is true?

a)B+ tree allows only the rapid random access
b) B + tree allows only the rapid sequential access
c) B + tree allows rapid random access as well as rapid sequential access
d) B + tree allows rapid random access and slower sequential access

Answer: c

34. A B+ tree can contain a maximum of 7 pointers in a node. What is the minimum number of keys in leaves?

a)6
b)3
c)4
d) 7

Answer: b

35. Which of the following is false?

a) A B+-tree grows downwards

B) A B+-tree is balanced

c) In a B+ -tree, the sibling pointers allow sequential searching

d) B+ -tree is shallower than B-tree

Answer: a

36. What is the maximum number of keys that a B+ -tree of order 3 and of height 3 have?
a)3
b)80
c)27
d) 26

Answer: d

37. Which one of the following data structures are preferred in database-system implementation?
a) AVL tree
B) B-tree
c) B+-tree
d) Splay tree

Answer: c

38. Which of the following is the most widely used external memory data structure?
A) AVL tree
B) B-tree
c) Red-black tree
d) Both AVL tree and Red-black tree

Answer: b

39. The procedure of choosing a suitable query out of all the queries is classified as
a) Query optimization
b) Parser optimization
c) Processor optimization
d) All of the above

Answer: D

40. The representation of the query in the form of data structure is called
a) Query graph
b) Query tree
c) Scanner tree
d) Parser tree

Answer: b

41. The representation of the queries in the form of data structure graph is called
a) Query graph
b) Query tree
c) Scanner tree
d) Parser tree

Answer: a

42. The concept which checks the syntax of query is classified as
a) Query tree
b) Parser
c) Scanner
d) Query Graph

Answer: b

43. The tree structure diagram in which the pointers of data are stored at the leaf nodes of diagram is classified as
a) B tree
b) B+ tree
c) Hash tree
d) B* tree

Answer: b

44. In tree structure, the node which is free of child nodes is called
a) Leaf
b) Root
c) Parent
d) Search Node

Answer: a

45. In physical ordered record files, the non key field for which the records does not have distinct values is classified as
a) Clustering field
b) Linear field
c) Dense field
d) Non dense field

Answer: a

46. The types of access that are supported efficiently are called as _____
a) Access modes
b) Access types
c) Access time
d) Access overhead

Answer: b

47. 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

Answer: d

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

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

Answer: a

49. The time it takes to delete a data item is called as _____
a) Insertion time
b) Deletion time
c) Time overhead
d) Access time

Answer: b

50. The additional space occupied by an index structure is called as _____
a) Access modes
b) Space types
c) Access time
d) Space overhead

Answer: d

MCQ Questions with Answers

ADVANCED TOPICS

1. A distributed database has which of the following advantages over a centralized database?

    A. Software cost

    B. Software complexity

    C. Slow Response

    D. Modular growth

    Answer: D

2. An autonomous homogenous environment is which of the following?

    A. The same DBMS is at each node and each DBMS works independently.

    B. The same DBMS is at each node and a central DBMS coordinates database access.

    C. A different DBMS is at each node and each DBMS works independently.

    D. A different DBMS is at each node and a central DBMS coordinates database access.

    Answer: A

3. A transaction manager is which of the following?

    A. Maintains a log of transactions

    B. Maintains before and after database images

    C. Maintains appropriate concurrency control

    D. All of the above.

    Answer: D

4. Location transparency allows for which of the following?

    A. Users to treat the data as if it is at one location

B. Programmers to treat the data as if it is at one location

C. Managers to treat the data as if it is at one location

D. All of the above.

Answer: D

5. A heterogeneous distributed database is which of the following?

A. The same DBMS is used at each location and data are not distributed across all nodes.

B. The same DBMS is used at each location and data are distributed across all nodes.

C. A different DBMS is used at each location and data are not distributed across all nodes.

D. A different DBMS is used at each location and data are distributed across all nodes.

Answer: D

6. Some of the columns of a relation are at different sites is which of the following?

A. Data Replication

B. Horizontal Partitioning

C. Vertical Partitioning

D. Horizontal and Vertical Partitioning

Answer: C

7. Which of the following is true concerning a global transaction?

A. The required data are at one local site and the distributed DBMS routes requests as necessary.

B. The required data are located in at least one nonlocal site and the distributed DBMS routes requests as necessary.

C. The required data are at one local site and the distributed DBMS passes the request to only the local DBMS.

D. The required data are located in at least one nonlocal site and the distributed DBMS passes the request to only the local DBMS.

Answer: B

8. A homogenous distributed database is which of the following?

A. The same DBMS is used at each location and data are not distributed across all nodes.

B. The same DBMS is used at each location and data are distributed across all nodes.

C. A different DBMS is used at each location and data are not distributed across all nodes.

D. A different DBMS is used at each location and data are distributed across all nodes.

Answer: B

9. Replication should be used when which of the following exist?

A. When transmission speeds and capacity in a network prohibit frequent refreshing of large tables.

B. When using many nodes with different operating systems and DBMSs and database designs.

C. The application's data can be somewhat out-of-date.

D. All of the above.

Answer: C

10. Storing a separate copy of the database at multiple locations is which of the following?

A. Data Replication

B. Horizontal Partitioning

C. Vertical Partitioning

D. Horizontal and Vertical Partitioning

Answer: A

11. A distributed database is which of the following?

A. A single logical database that is spread to multiple locations and is interconnected by a network

B. A loose collection of file that is spread to multiple locations and is interconnected by a network

C. A single logical database that is limited to one location.

D. A loose collection of file that is limited to one location.

Answer: A

12. Which of the following is the oldest database model?
a) Relational
b) Hierarchical
c) Physical
d) Network

Answer: d

13. Which of the following is a disadvantage of replication?

    A. Reduced network traffic

    B. If the database fails at one site, a copy can be located at another site.

    C. Each site must have the same storage capacity.

    D. Each transaction may proceed without coordination across the network.

    Answer: C

14. A distributed database can use which of the following strategies?

 A. Totally centralized at one location and accessed by many sites

 B. Partially or totally replicated across sites

 C. Partitioned into segments at different sites

 D. All of the above

Answer: D

15. Which of the following is not one of the stages in the evolution of distributed DBMS?

 A. Unit of work

 B. Remote unit of work

 C. Distributed unit of Work

 D. Distributed request

Answer: A

16. A distributed transaction can be .... if queries are issued at one or more nodes.
a) fully read-only
b) partially read-only
c) fully read-write
d) partially read-write

Answer: b

17. Depending on the situation each node in the Distributed Database system can act as, _____ .

a)A client
b) A server
c) Both a and b
d) None

Answer: c

18. Which transaction contains statements that access more than one node?

a) A Remote Transaction
b) A Distributed transaction
c) Both a and b
d) None

Answer: b

19. What is the mechanism which guarantees that all database servers participating in a distributed transaction either all commit or all roll back the statements in the transaction?

a) Commit
b) Commit transaction
c) Two-phase commit
d) Three-phase commit

Answer: c

20. Which of the following statements is a true statement concerning the open database connectivity standard (ODBC)?

a) Each vendor desiring to be ODBC-complaint provides an ODBC driver.
b) Requires certain criteria to be met in order to establish an ODBC connection.
c) Provides a programming interface that provides a common language for application programs to access and process SQL databases independent of the RDBMS accessed.
d) All of the above

Answer: d

21. A database server is responsible for which of the following?

a) Database storage
b) Data processing logic
c) Data presentation logic
d) All of the above.

Answer: a

22. What does XML stand for?
A. eXtra Modern Link
B. eXtensible Markup Language
C. Example Markup Language
D. X-Markup Language
Answer: B

23. What is the correct syntax of the declaration which defines the XML version?:
A. <xml version="A.0" />
B. <?xml version="A.0"?>
C. <?xml version="A.0" />
D. None of the above
Answer: B

24. Which statement is true?
A. All the statements are true
B. All XML elements must have a closing tag
C. All XML elements must be lower case
D. All XML documents must have a DTD
Answer: B

25. Well formed XML document means
A. it contains a root element
B. it contain an element
C. it contains one or more elements

D. must contain one or more elements and root element must contain all other elements

Answer: D

26. Comment in XML document is given by

A. <?-- -->

B. <!-- --!>

C. <!-- -->

D. </-- -- >

Answer: C

27. Which of the following strings are a correct XML name?

A. _myElement

B. my Element

C. #myElement

D. None of the above

Answer: A

28. Which of the following XML fragments are well-formed?

A. <?xml?>

B. <?xml version="A.0"?>

C. <?xml encoding="JIS"?>

D. <?xml encoding="JIS" version="A.0"?>

Answer: B

29. What does DTD stand for?

A. Direct Type Definition

B. Document Type Definition

C. Do The Dance

D. Dynamic Type Definition

Answer: B

30. DTD includes the specifications about the markup that can be used within the document, the specifications consists of all EXCEPT

A. the browser name

B. the size of element name

C. entity declarations

D. element declarations

Answer: A

31. Which of the following XML fragments are well-formed?

A. <myElement myAttribute="someValue"/>

B. <myElement myAttribute=someValue/>

C. <myElement myAttribute='someValue'>

D.

Answer: A

32. How can we make attributes have multiple values:

A. <myElement myAttribute="value1 value2"/>

B. <myElement myAttribute="value1" myAttribute="value2"/>

C. <myElement myAttribute="value1, value2"/>

D. attributes cannot have multiple values

Answer: D

33. The use of a DTD in XML development is:

A. required when validating XML documents

B. no longer necessary after the XML editor has been customized

C. used to direct conversion using an XSLT processor

D. a good guide to populating a templates to be filled in when generating an XML document automatically

Answer: A

34. XML is which of the following?

a) A scripting language that states the rules for tagging elements.

b) A programming language that states the rules for tagging elements.

c) A programming language that allows the creation of customized tags.

d) A scripting language that allows the creation of customized tags.

Answer: d

35.ODL supports which of the following types of association relationships?

  A.   Unary

B. Unary and Binary

C. Unary and Binary and Ternary

D. Unary and Binary and Ternary and higher

Answer: B

36.Using ODL, you can define which of the following?

A. Attribute

B. Structure

C. Operation

D. All of the above.

Answer: D

37.The object definition language (ODL) is which of the following?

A. Used to develop logical schemas

B. A data definition language for OODB

C. A method to implement a logical schema

D. All of the above.

Answer: D

38.An atomic literal is which of the following?

A. Strings

B. Boolean

C. Long

D. All of the above.

Answer: D

39.Which of the following is true concerning an ODBMS?

A. They have the ability to store complex data types on the Web.

B. They are overtaking RDBMS for all applications.

C. They are most useful for traditional, two-dimensional database table applications.

D. All of the above.

Answer: A

40.Which of the following is an ordered collection of elements of the same type?

A. Set

B. Bag

C. List

D. Dictionary

Answer: C

41.The Object Query Language is which of the following"?

A. Similar to SQL and uses a select-from-where structure

B. Similar to SQL and uses a select-where structure

C. Similar to SQL and uses a from-where structure

D. Not similar to SQL

Answer: A

42. Information Retrieval systems have much in common with

a) Filing systems
b) Transaction systems
c) Database systems
d) Management systems

Answer: C

43.) IR Stands for_____.

a) Information Retrieval

b) Information Retired

c) Inform Retrieval

d) Information Ready

Answer: a

44. A _____ DBMS distributes data processing tasks between the workstation and a network server.

a) Network
b) Relational
c) Client Server
d) Hierarchical

Answer: c

45. Web servers should be configured in which of the following ways?

a) Unauthorized access is restricted.

b) Unauthorized access is unrestricted.
c) Unauthorized access is impossible.
d) Unauthorized access is possible.

Answer: a

46. The storage structure which do not survive system crashes are _____
a) Volatile storage
b) Non-volatile storage
c) Stable storage
d) Dynamic storage

Answer: a

47. Storage devices like tertiary storage, magnetic disk comes under
a) Volatile storage
b) Non-volatile storage
c) Stable storage
d) Dynamic storage

Answer: b

48. For a transaction to be durable, its changes need to be written to _____ storage.
a) Volatile storage
b) Non-volatile storage
c) Stable storage
d) Dynamic storage

Answer: c

49. The unit of storage that can store one are more records in a hash file organization are
a) Buckets
b) Disk pages
c) Blocks
d) Nodes

Answer: a

50. A _____ file system is software that enables multiple computers to share file storage while maintaining consistent space allocation and file content.
a) Storage
b) Tertiary
c) Secondary
d) Cluster

Answer: d