Final project

1. Using which language can a user request information from a database? a) Query b) Relational c) Structural d) Compiler

   Answer – A) Query

2. Which one of the following is a procedural language? a) Domain relational calculus b) Tuple relational calculus c) Relational algebra d) Query language

   Answer - c) Relational algebra

3. The_____ operation allows the combining of two relations by merging pairs of tuples, one from each relation, into a single tuple. a) Select b) Join c) Union d) Intersection

   Answer - b) Join

4. The _____operation performs a set union of two “similarly structured” tables a) Union b) Join c) Product d) Intersect

   Answer - a) Union

5. The most commonly used operation in relational algebra for projecting a set of tuple from a relation is a) Join b) Projection c) Select d) Union

   Answer - c) Select

6. The most commonly used operation in relational algebra for projecting a set of tuple from a relation is a) Join b) Projection c) Select d) Union

   Answer - c) Select

7. A _____ is a pictorial depiction of the schema of a database that shows the relations in the database, their attributes, and primary keys and foreign keys. a) Schema diagram b) Relational algebra c) Database diagram d) Schema flow

   Answer - a) Schema diagram

8. The _____ provides a set of operations that take one or more relations as input and return a relation as an output. a) Schematic representation b) Relational algebra c) Scheme diagram d) Relation flow

   Answer - b) Relational algebra

9. Define database model

   Answer - A database model is a kind of data model that decides the intelligent structure of a database and essentially decides in which way information can be put away, coordinated and controlled.

10. Define Normalization.

    Answer - Normalization is a process of organizing the data in database to avoid data redundancy, insertion anomaly, update anomaly & deletion anomaly

11. Enlist the advantages of normalizing database.

    Answer - The advantages of normalization include:

    1. Searching, sorting, and creating indexes is faster, since tables are narrower, and more rows fit on a data page.
    2. You usually have more tables.
    3. You can have more clustered indexes (one per table), so you get more flexibility in tuning queries.
    4. Index searching is often faster, since indexes tend to be narrower and shorter.
    5. More tables allow better use of segments to control physical placement of data.

12. Define Denormalization.

Answer - Denormalization is the way toward attempting to improve the read execution of a database, to the detriment of losing some compose execution, by adding excess duplicates of information or by gathering information.

13. Define Data Warehousing.

Answer - A Data Warehousing (DW) is process for collecting and managing data from varied sources to provide meaningful business insights.

14. What do you mean by Index hunting?

Answer - Index hunting is the process of boosting the collection of indexes which help in improving the query performance as well as the speed of the database

15. Enlist the disadvantages of query.

Answer - The disadvantages of query are:

- No indexes
- Stored procedures are excessively compiled.
- Triggers and procedures are without SET NOCOUNT ON.
- Complicated joins making up inadequately written query.
- Cursors and temporary tables showcase a bad presentation.

16. Enlist ways to efficiently code transactions.

Answer - Ways to efficiently code transactions:

- User input should not be allowed while transactions.
- While browsing, transactions must not be opened of data.
- Transactions must be kept as small as possible.
- Lower transaction segregation levels.

- Least information of data must be accessed while transacting.

17. Differentiate Table Scan from Index Scan.

Answer – Difference between Table Scan and Index Scan

At the point when the table output happens MS SQL worker adds all the Rows and Columns to memory. At the point when the Index Scan happens, it will peruse all the Rows and just the Columns in the list.

If there should be an occurrence of execution the Table Scan and Index Scan both have a similar yield, in the event that we have utilize the single table SELECT statement. But it contrasts on account of Index Scan when we will JOIN table.

18. Define Fragmentation.

    Answer – Fragmentation most by and large methods the way toward dividing—breaking into pieces or being separated into parts. ... The action word fragmentate, which comes from fracture, implies something very similar as the action word section—to isolate something into parts or to break it into pieces.

19. Differentiate Nested Loop, Hash Join and Merge Join.

    Answer - Nested loop - A nested loop join is a naive algorithm that joins two sets by using two nested loops

    Hash join - The hash join is an example of a join algorithm and is used in the implementation of a relational database management system.

    Merge join - The merge joins are used for performing natural joins and equi-joins for given relations r and s.

20 What is Database partitioning?

    Answer - A segment is a division of an intelligent information base or its constituent components into particular autonomous parts. Information base apportioning is regularly accomplished for reasonability, execution or accessibility reasons, or for load adjusting