Q) What is RDBMS?

->A relational database management system (RDBMS or just RDB) is a common type of database that stores data in tables, so it can be used in relation to other stored datasets.

Q) What is SQL?

->stands for Structured Query Language. ... SQL statements are used to perform tasks such as update data on a database, or retrieve data from a database. Some common relational database management systems that use SQL are: Oracle, Sybase, Microsoft SQL Server, Access, Ingres, etc.

Q) What is a Database?

->the collection of related data is termed as a database which is organised in such a way that it can be easily retrieved and managed.

Q) What is a primary key?

->primary key uniquely identify each entity in the entity set. It must have unique values and cannot hold null values.

Q) What is a unique key?

->The UNIQUE constraint ensures that all values in a column are different. Both the UNIQUE and PRIMARY KEY constraints provide a guarantee for uniqueness for a column or set of columns.

Q) What is a foreign key?

-> FOREIGN KEY is a field (or collection of fields) in one table, that refers to the PRIMARY KEY in another table. ... The table with the foreign key is called the child table, and the table with the primary key is called the referenced or parent table.

Q) What is a join?

->corresponding to a join operation in relational algebra – combines columns from one or more tables into a new table.

Q) What are the types of join and explain each?

->INNER, LEFT OUTER, RIGHT OUTER, FULL OUTER and CROSS.

(INNER) JOIN: Returns records that have matching values in both tables

LEFT (OUTER) JOIN: Returns all records from the left table, and the matched records from the right table

RIGHT (OUTER) JOIN: Returns all records from the right table, and the matched records from the left table

FULL (OUTER) JOIN: Returns all records when there is a match in either left or right table

Q) What is normalization?

->Normalization is a database design technique that reduces data redundancy and eliminates undesirable characteristics like Insertion, Update and Deletion Anomalies. ... The purpose of Normalization in SQL is to eliminate redundant (repetitive) data and ensure data is stored logically.

Q) What is a degree of Relation or cardinality?

->The degree of a relationship is the number of entity types that participate(associate) in a relationship. By seeing an E-R diagram, we can simply tell the degree of a relationship i.e the number of an entity type that is connected to a relationship is the degree of that relationship

Q) What are the three levels of data abstraction?

->There are mainly three levels of data abstraction:

Internal Level: Actual PHYSICAL storage structure and access paths.

Conceptual or Logical Level: Structure and constraints for the entire database

External or View level: Describes various user views

Q) What do you mean by durability in DBMS?

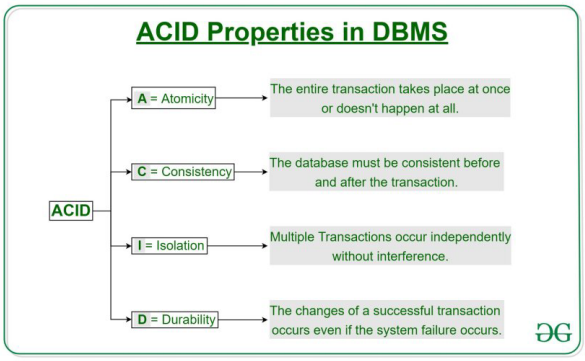
->Durability is the property that makes sure that transactions are permanently stored and do not disappear or are erased by accident, even during a database crash. It is accomplished by storing all transactions into a non-volatile storage medium.

Q) What do you mean by ACID in DBMS?

->A transaction is a single logical unit of work which accesses and possibly

modifies the contents of a database. Transactions access data using read and write operations.

In order to maintain consistency in a database, before and after the transaction, certain properties are followed. These are called ACID properties.



Q) What is functional Dependency?

->A functional dependency (FD) is a relationship between two attributes, typically between the PK and other non-key attributes within a table. For any relation R, attribute Y is functionally dependent on attribute X (usually the PK), if for every valid instance of X, that value of X uniquely determines the value of Y.

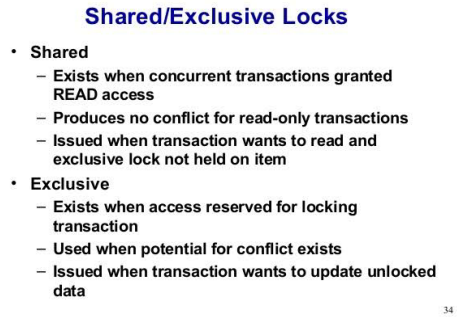
Q) What is the E-R model?

->ER model stands for an Entity-Relationship model. It is a high-level data model. This model is used to define the data elements and relationship for a specified system.

Q) What is Data Independence?

->Data independence is the type of data transparency that matters for a centralized DBMS. It refers to the immunity of user applications to changes made in the definition and organization of data.

Q) What is the difference between a shared lock and exclusive lock?



Q) What is Denormalization.

->Denormalization is a database optimization technique in which we add redundant data to one or more tables. This can help us avoid costly joins in a relational database.

Q) What are all the different normalizations?

->The database normalization process is further categorized into the following types:

First Normal Form (1 NF)

Second Normal Form (2 NF)

Third Normal Form (3 NF)

Boyce Codd Normal Form(BCNF)

Q) What is a View?

->a view is the result set of a stored query on the data, which the database users can query just as they would in a persistent database collection object. This pre-established query command is kept in the database dictionary.

Q) What is an Index?

->index is a type of data structure. It is used to locate and access the data in a database table quickly.Indexing is used to optimize the performance of a database by minimizing the number of disk accesses required when a query is processed.

Q) What is a Cursor?

->A cursor holds the rows (one or more) returned by a SQL statement. The set of rows the cursor holds is referred to as the active set. You can name a cursor so that it could be referred to in a program to fetch and process the rows returned by the SQL statement, one at a time.

Q) What is a relationship and what are they?

->Database relationships are associations between tables that are created using join statements to retrieve data. Both tables can have only one record on each side of the relationship.

Q) What is a query?

->A query is a way of requesting information from the database. A database query can be either a select query or an action query. A select query is a query for retrieving data, while an action query requests additional actions to be performed on the data, like deletion, insertion, and updating.

Q) What is subquery?

->Subquery or Inner query or a Nested query is a query within another SQL query and embedded within the WHERE clause. ... An ORDER BY command cannot be used in a subquery, although the main query can use an ORDER BY. The GROUP BY command can be used to perform the same function as the ORDER BY in a subquery.

Q) What is a stored procedure?

->A stored procedure is a prepared SQL code that you can save, so the code can be reused over and over again.

So if you have an SQL query that you write over and over again, save it as a stored procedure, and then just call it to execute it.

Q) What is the difference between DELETE and TRUNCATE commands?

->Delete and truncate both commands can be used to delete data of the table. Delete is a DML command whereas truncate is DDL command. Truncate can be used to delete the entire data of the table without maintaining the integrity of the table. On the other hand , delete statement can be used for deleting the specific data.

Q) What is data Integrity?

->Data Integrity is used to maintain Accuracy and consistency of data in the Table. Data Integrity is used to maintain accuracy and consistency of data in a table.

Q) What is Datawarehouse?

->A data warehouse is a relational database that is designed for query and analysis rather than for transaction processing. It usually contains historical data derived from transaction data, but it can include data from other sources.

Q) What is Self-Join?

-> The SQL SELF JOIN is used to join a table to itself as if the table were two tables; temporarily renaming at least one table in the SQL statement.

Q) What is Cross-Join? .

->The CROSS JOIN is used to generate a paired combination of each row of the first table with each row of the second table.

Q) What is user defined functions?

->Like functions in programming languages, SQL Server user-defined functions are routines that accept parameters, perform an action, such as a complex calculation, and return the result of that action as a value. The return value can either be a single scalar value or a result set.

Q) Advantages and Disadvantages of Stored Procedure?

->Advantages	->Disadvantages
It is faster.	It is difficult to debug.
It is pre-compiled.	Need expert developer, since difficult to write code.
It reduces network traffic.	It is database dependent.
It is reusable.	It is non-portable.
It's security is high .	It.is expensive.

Q) What is Online Transaction Processing (OLTP)?

->OLTP (Online Transactional Processing) is a category of data processing that is focused on transaction-oriented tasks. OLTP typically involves inserting, updating, and/or deleting small amounts of data in a database.

Q) What is CLAUSE?

-> clause is used to specify a condition while fetching the data from a single table or by joining with multiple tables. If the given condition is satisfied, then only it returns a specific value from the table.

Q) What is recursive stored procedure?

-> Recursive stored procedure refers to a stored procedure which calls by itself until it reaches some boundary condition. This recursive function or procedure helps the programmers to use the same set of code n number of times.

Q) What is Union, minus and Intersact commands?

->UNION The most commonly used command, UNION combines the two answer sets into a single answer set. It automatically removes duplicate rows from the results.

INTERSECT INTERSECT gives you the rows that are found in both queries by eliminating rows that are only found in one or the other query.

MINUS MINUS gives you the rows that are found in the first query and not in the second query by removing from the results all the rows that are found only in the second query.

Q) What is the difference between TRUNCATE and DROP statements?

->

Difference between DELETE, TRUNCATE and DROP commands in SQL

	DELETE	TRUNCATE	DROP
Command Type	DML	DDL	DDL
Rollback Transactions	Can be Rolledback	No	No
Permanent Delete	Does not remove record permanently	Remove the record permanently	Remove all records,indexes,structure and privileges permanently
Trigger	Trigger is fired	No	No
Performance	Slower than Truncate	Faster than Delete	Quick but some complications
Can we use where clause	Yes	No	No
Syntax	DELETE FROM table_name; DELETE FROM table_name WHERE Condition;	TRUNCATE TABLE table_name;	DROP TABLE table_name;

Q) What are aggregate and scalar functions?

->These functions are used to do operations from the values of the column and a single value is returned.

AVG()

COUNT()

FIRST()

LAST()

MAX()

MIN()

SUM()

Q) How to select unique records from a table?

-> SELECT DISTINCT column_1 FROM table; In this statement, the values in the column_1 of the table are compared to determine the duplicates. In this syntax, the combination of values in the column_1 , column_2 , and column_3 are used to determine the uniqueness of the data.

Q) Which operator is used in query for pattern matching?

->LIKE operator is used for pattern matching.

select * from student where studentname like ‘abc_’