**ITF**

**SQL INTERVIEW QUESTIONS**

Q: What is a Database?  
A: A database is an organized collection of data, generally stored and accessed electronically from a computer system. In simple terms, a database is a collection of data stored in a computer system. When you order a product on a commercial website, your order is stored in a database. You withdrew money from your bank account. Your bank stores this transaction in the database. Social media platforms such as Facebook, Instagram, Twitter use databases to store data like members, their friends, member activities, messages, advertisements, etc.

Q: What is a table, column and row?  
A: A table is an organized collection of data stored in the form of columns and rows. Columns can be categorized as vertical and rows as horizontal. The columns in a table are called fields while the rows can be referred to as records.

Q: What is SQL?  
A: SQL stands for Structured Query Language and used to communicate with a database. With SQL, you can access or manipulate data stored in the database.

Q: What are some common clauses used with SELECT query in SQL?  
A: WHERE clause, ORDER BY clause, GROUP BY clause and HAVING clause

Q: What is an aggregate function?  
A: An aggregate function performs operations on a collection of values to return a single scalar value. Aggregate functions are often used with the GROUP BY and HAVING clauses of the SELECT statement.

Q: What is a Join?  
A: The SQL Join clause is used to combine records (rows) from two or more tables in a SQL database based on a related column between the two.

Q: What is inner join?  
A: Retrieves records that have matching values in both tables involved in the join. This is the widely used join for queries.

Q: What is a Subquery?  
A: A subquery is a query within another query, also known as nested query or inner query . It is used to restrict or enhance the data to be queried by the main query, thus restricting or enhancing the output of the main query respectively.

Q: What are Constraints in SQL?  
A: **NOT NULL** - Restricts NULL value from being inserted into a column. **DEFAULT** - Automatically assigns a default value if no value has been specified for the field. **UNIQUE** - Ensures unique values to be inserted into the field. **PRIMARY KEY** - Uniquely identifies each record in a table. **FOREIGN KEY** - Ensures referential integrity for a record in another table.

Q: What is a Primary Key?  
A: The PRIMARY KEY constraint uniquely identifies each row in a table. It must contain UNIQUE values and has an implicit NOT NULL constraint.

Q:What is a Foreign Key?  
A: A FOREIGN KEY comprises of single or collection of fields in a table that essentially refer to the PRIMARY KEY in another table. Foreign key constraint ensures referential integrity in the relation between two tables. The table with the foreign key constraint is labelled as the child table, and the table containing the candidate key is labelled as the referenced or parent table.