**SQL Interview Question – Part 1**

1. What is the difference between DBMS and RDBMS

\* DBMS applications store data as file.

RDBMS applications store data in a tabular form.

\* Normalization is not present in DBMS.

Normalization is present in RDBMS.

\* DBMS does not apply any security with regards to data manipulation.

RDBMS defines the integrity constraint for the purpose of ACID (Atomocity, Consistency, Isolation and Durability) property.

\* DBMS work very well in a single-user small organization setup.

RDBMS can handle large amount of data while supporting multiple users.

1. What do you mean by normalization and what is the need for the same?

Normalization is a technique through which we can reduce or remove the redundancy from the table.

1. What is integrity constraint in DBMS?

The Set of rules which is used to maintain the quality of information are known as integrity constraints.

**Domain constraints:** like we can’t insert int type of value in Character domain

**Entity Integrity constraints:** primary key should not be null

A table can contain a null value other than the primary key field.

**Referential integrity constraints:** A referential integrity constraint is specified between two tables.

In the Referential integrity constraints, if a foreign key in Table 1 refers to the Primary Key of Table 2, then every value of the Foreign Key in Table 1 must be null or be available in Table

**Key constraints:** An entity set can have multiple keys, but out of which one key will be the primary key. A primary key can contain a unique and null value in the relational table.

1. What are the constraints available in MySQL?

**The following are the most common constraints used in the MySQL:**

**NOT NULL**

**PRIMARY KEY**

**FOREIGN KEY**

**AUTO\_INCREMENT**

**CHECK**

**DEFAULT**

**UNIQUE**

CREATE TABLE Persons (

ID int AUTO\_INCREMENT PRIMARY KEY NOT NULL,

Name varchar (45) UNIQUE NOT NULL,

Age int CHECK (Age>=18),

City varchar (25) DEFAULT 'New York'

);

CREATE TABLE Company (

ID int,

CompanyName varchar (45),

FOREIGN KEY (ID) REFERENCES Person (ID)

);

1. Can a single table contain more than one primary key?

No,there can't be more than one primary key in an RDBMS table

1. What is composite key?

A composite key is made by the combination of two or more columns in a table that can be used to uniquely identify each row in the table.

**Note:**

\* A composite key can also be made by the combination of more than one candidate key.

\* A composite key cannot be null.

CREATE TABLE student (

rollNumber INT,

name VARCHAR (30),

class VARCHAR (30),

section VARCHAR (1),

mobile VARCHAR (10),

PRIMARY KEY (rollNumber, mobile)); //composite key

1. Can a single table contain more than one composite key?

NO, a Table can have a Composite Primary Key which is a primary key made from two or more columns

1. What is difference between the unique key and primary key constraint?

\*Primary key should be unique and not not.

Unique key can be null

\*Only one primary key can be present in a table

Multiple Unique Keys can be present in a table

\*A Primary key supports auto increment value.

A unique key does not support auto increment value.

1. Can the foreign key also act as a primary key?
2. What is difference between the column level constraint and the table level constraint?
3. If we have the check attribute as well as the triggers, whether trigger fires first of the check constraint fires first?
4. What are the different aggregate functions?

aggregate functions are used to evaluate mathematic calculation and return single value. This can be calculated from the column in a table.

There are five aggregate functions, which are: **MIN, MAX, COUNT, SUM, and AVG**

1. Write a query to find the group of the records within the specified date range.

**select** **department,** **count (\*) from employee group by** **department;**

1. What is the use of dual function?

The DUAL table is a special one-row, one-column table present by default in Oracle and other database installations.

1. What is default port number of MySQL?

**SHOW VARIABLES WHERE Variable\_name = 'port';**

**Port 3306**

1. How to create the database in MYSQL

**Create datbase DATABASENAME;**

**Show databases;**

1. How to list the available tables in current database?

**Show tables;**

1. What are the different cardinality relationships? Explain with examples
2. What is the importance of ER Diagram?
3. What are the different normalization levels?