100+ Most Popular SQL Interview Questions And Answers

Are you preparing for your SQL developer interview and looking for popular SQL Interview Questions asked in companies?

In this real-world SQL Server Developer Interview Questions post, we have put together both advanced and basic SQL Interview Questions and Answers.

Basic & Advanced SQL Server Interview Questions And Answers

Let's start with common SQL Interview Questions first.

1. What is a Database?

A database is a collection of information in an organized form for faster and better access, storage, and manipulation. It can also be defined as a collection of tables, schema, views, and other database objects.

2. What is Data warehouse?

Data warehouse refers to a central repository of data from multiple sources of information. Those data are consolidated, transformed and made available for the mining as well as online processing.

3. What is a Table in a Database?

A table is a database object used to store records in a field in the form of columns and rows that holds data.

4. What is a Field in a Database?

A field in a Database table is a space allocated to store a particular record within a table.

5. What is a Record in a Database?

A record (also called a row of data) is an ordered set of related data in a table.

6. What is a column in a Table?

A column is a vertical entity in a table that contains all information associated with a specific field in a table.

7. What is DBMS?

Database Management System is a collection of programs that enables a user to store, retrieve, update and delete information from a database.

8. What are the types of DBMS?

There are two types of DBMS
1. Relational Database Management System (RDBMS)
2. Non-Relational Database Management System

9. What is RDBMS?

RDBMS stands for **R**elational **D**atabase **M**anagement **S**ystem. RDBMS is a database management system (DBMS) that is based on the relational model. Data from a relational database can be accessed using Structured Query Language (SQL)

10. What are the popular Database Management Systems in the IT Industry?

Oracle, MySQL, Microsoft SQL Server, PostgreSQL, Sybase, MongoDB, DB2, and Microsoft Access etc.,

11. What is SQL?

SQL Overview: SQL stands for Structured Query Language. It is an American National Standard Institute (ANSI) standard. It is a standard language for accessing and manipulating databases. Using SQL, some of the action we could do are to create databases, tables, stored procedures (SP's), execute queries, retrieve, insert, update, delete data against a database.

12. What are the different types of SQL commands?

SQL commands are segregated into the following types:

- DDL – Data Definition Language
- DML – Data Manipulation Language
- DQL – Data Query Language
- DCL – Data Control Language

- TCL – Transaction Control Language

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13. What are the different DDL commands in SQL?

DDL commands are used to define or alter the structure of the database.

- CREATE: To create databases and database objects
- ALTER: To alter existing database objects
- DROP: To drop databases and databases objects
- TRUNCATE: To remove all records from a table but not its database structure
- RENAME: To rename database objects

14. What are the different DML commands in SQL?

DML commands are used for managing data present in the database.

- SELECT: To select specific data from a database
- INSERT: To insert new records into a table
- UPDATE: To update existing records
- DELETE: To delete existing records from a table

15. What are the different DCL commands in SQL?

DCL commands are used to create roles, grant permission, and control access to the database objects.

- GRANT: To provide user access
- DENY: To deny permissions to users
- REVOKE: To remove user access

16. What are the different TCL commands in SQL?

TCL commands are used to manage the changes made by DML statements

TCL commands are used to manage the changes made by DML statements.

- COMMIT: To write and store the changes to the database
- ROLLBACK: To restore the database since the last commit

17. What is an Index?

An index is used to speed up the performance of queries. It makes faster retrieval of data from the table. The index can be created on one column or a group of columns.

18. What are all the different types of indexes?

There are three types of indexes

1. Unique Index: Unique Indexes helps maintain data integrity by ensuring that no two rows of data in a table have identical key values. A unique index can be applied automatically when a primary key is defined. It ensures that the values in the index key columns are unique.
2. Clustered Index: Clustered Index reorders the physical order of the table and search based on the key values. There will be only one clustered index per table.
3. Non-Clustered Index: Non-Clustered Index doesn't alter the physical order of the table and maintains a logical order of the data. Each table can have many non-clustered indexes.

19. What is the difference between Cluster and Non-Cluster Index?

The difference between the clustered and non-clustered index in SQL is as follows:
Clustered Index:
It is used for easy retrieval of data from the database and it is faster.
One table can only have one clustered index
It alters the way records are stored in a database as it sorts out rows by the column which is set to be clustered index.
Non-Clustered Index:
It is slower compared to the Clustered index.
One table can have multiple non clustered index
It doesn't alter the way it was sorted but it creates a separate object within a table which points back to the original table rows after searching.

20. What is a View in SQL?

A view is like a subset of a table which is stored logically in a database. A view is a virtual table. It contains rows and columns similar to a real table. The fields in the view are fields from one or more real tables. Views do not contain data of their own. They are used to

from one or more real tables. Views do not contain data of their own. They are used to restrict access to the database or to hide data complexity.

```
1 CREATE VIEW view_name AS SELECT column_name1, column_name2 FROM table_name WHERE CONDITION;
```

21. What are the advantages of Views?

Some of the advantages of Views are

1. Views occupy no space
2. Views are used to simply retrieve the results of complicated queries that need to be executed often.
3. Views are used to restrict access to the database or to hide data complexity.

22. What is a relationship and what are they?

Database Relationship is defined as the connection between the tables in a database. There are various database relationships namely

1. One to One Relationship
2. One to Many Relationship
3. Many to One Relationship
4. Self-Referencing Relationship

23. What is a query?

A database query is a request for data or information from a database table or combination of tables. A database query can be either a select query or an action query.

24. What is a Subquery?

A Subquery is a SQL query within another query. It is a subset of a Select statement whose return values are used in filtering the conditions of the main query.

25. What are the types of subquery?

There are two types of subquery:

1. Correlated: In a SQL database query, a correlated subquery is a subquery that uses values from the outer query in order to complete. Because a correlated subquery requires the outer query to be executed first, the correlated subquery must run once for every row in the outer query. It is also known as a synchronized subquery.

2. Non-Correlated: A Non-correlated subquery is a subquery in which both outer query and inner query are independent to each other.

26. What is Synchronized Subquery?

Refer Correlated Subquery.

27. What is the difference between Local Variables and Global Variables?

Local Variables: Local variables can be used or exist only inside the function. These variables are not used or referred by any other functions. These are not known to other functions. Variables can be created whenever that function is called.

Global Variables: Global variables can be used or exist throughout the program. Same variable declared in global cannot be used in functions. Global variables cannot be created whenever that function is called.

28. What is data Integrity?

Data integrity defines the accuracy and consistency of the data stored in a database. It also defines integrity constraints to enforce business rules on the data when it is entered into an application or a database.

29. What is Auto Increment in SQL?

It is one of the important Oracle DBA Interview Questions.

Auto increment keyword allows the user to create a unique number to get generated when a new record is inserted into a table. Auto increment keyword can be used whenever Primary Key is used.

Auto increment keyword is used in Oracle and IDENTITY keyword is used in SQL Server.

30. What is a temp table?

A temp table is a temporary storage structure to store the data temporarily.

31. How to avoid duplicate records in a query?

The SQL SELECT DISTINCT query is used to return only unique values. It eliminates all the duplicated values.

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32. What is the difference between Rename and Alias?

'Rename' is a permanent name given to a table or column
'Alias' is a temporary name given to a table or column.

33. What is a Join?

Join is a query, which retrieves related columns or rows from multiple tables.

34. What are the different types of joins?

Types of Joins are as follows:

- INNER JOIN
- LEFT JOIN
- RIGHT JOIN
- OUTER JOIN

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35. What is the difference between an inner and outer join?

Inner Join: An inner join returns rows when there is at least some matching data between two (or more) tables that are being compared.

Outer Join: An outer join returns rows from both tables that include the records that are unmatched from one or both the tables.

36. What are SQL constraints?

SQL constraints are the set of rules that enforced some restriction while inserting, deleting or updating of data in the databases.

37. What are the constraints available in SQL?

Some of the constraints in SQL are – Primary Key, Foreign Key, Unique Key, SQL Not Null, Default, Check and Index constraint.

38. What is a Unique constraint?

A unique constraint is used to ensure that there are no duplication values in the field/column.

39. What is a Primary Key?

A *PRIMARY KEY* constraint uniquely identifies each record in a database table. All columns participating in a primary key constraint must not contain NULL values.

40. Can a table contain multiple *PRIMARY KEY's*?

The short answer is no, a table is not allowed to contain multiple primary keys but it allows to have one composite primary key consisting of two or more columns.

41. What is a Composite *PRIMARY KEY*?

Composite *PRIMARY KEY* is a primary key created on more than one column (combination of multiple fields) in a table.

42. What is a *FOREIGN KEY*?

A *FOREIGN KEY* is a key used to link two tables together. A *FOREIGN KEY* in a table is linked with the *PRIMARY KEY* of another table.

43. Can a table contain multiple *FOREIGN KEY's*?

A table can have many *FOREIGN KEY's*.

44. What is the difference between *UNIQUE* and *PRIMARY KEY* constraints?

There should be only one *PRIMARY KEY* in a table whereas there can be any number of *UNIQUE* Keys.
PRIMARY KEY doesn't allow *NULL* values whereas Unique key allows NULL values.

45. What is a *NULL* value?

A field with a *NULL* value is a field with no value. A *NULL* value is different from a zero value or a field that contains spaces. A field with a *NULL* value is one that has been left blank during record creation. Assume, there is a field in a table is optional and it is possible to insert a record without adding a value to the optional field then the field will be saved with a *NULL* value.

46. What is the difference between NULL value, Zero, and Blank space?

As I mentioned earlier, Null value is field with no value which is different from zero value and blank space.
Null value is a field with no value.
Zero is a number
Blank space is the value we provide. The ASCII value of space is CHAR(32).

47. How to Test for *NULL* Values?

A field with a *NULL* value is a field with no value. *NULL* value cannot be compared with other NULL values. Hence, It is not possible to test for *NULL* values with comparison operators, such as =, <, or <>. For this, we have to use the *IS NULL* and *IS NOT NULL* operators.

```
1 SELECT column_names FROM table_name WHERE column_name IS NULL;
```

```
1 SELECT column_names FROM table_name WHERE column_name IS NOT NULL;
```

48. What is SQL *NOT NULL* constraint?

NOT NULL constraint is used to ensure that the value in the filed cannot be a NULL

49. What is a *CHECK* constraint?

A CHECK constraint is used to limit the value that is accepted by one or more columns.

E.g. 'Age' field should contain only the value greater than 18.

```
1 CREATE TABLE EMP_DETAILS(EmpID int NOT NULL, NAME VARCHAR (30) NOT NULL, Age INT CHECK (AGE &g
```

50. What is a *DEFAULT* constraint?

DEFAULT constraint is used to include a default value in a column when no value is supplied at the time of inserting a record.

51. What is Normalization?

Normalization is the process of table design to minimize the data redundancy.

52. What are all the different Normalization?

There are different types of Normalization forms in SQL.

- First Normal Form (1NF)

- First Normal Form (1NF)
- Second Normal Form (2NF)
- Third Normal Form (3NF)
- Boyce and Codd Normal Form (BCNF)

53. What is Denormalization?

Denormalization is a database optimization technique used to increase the performance of a database infrastructure. It involves in the process of adding redundant data to one or more tables. In a normalized database, we store data in separate logical tables and attempt to minimize redundant data.

54. What is Stored procedure?

A Stored Procedure is a collection of SQL statements that have been created and stored in the database to perform a particular task. The stored procedure accepts input parameters and processes them and returns a single value such as a number or text value or a result set (set of rows).

55. What is a Trigger?

A Trigger is a SQL procedure that initiates an action in response to an event (Insert, Delete or Update) occurs. When a new Employee is added to an Employee_Details table, new records will be created in the relevant tables such as Employee_Payroll, Employee_Time_Sheet etc.,

56. Explain SQL Data Types?

In SQL Server, each column in a database table has a name and a data type. We need to decide what type of data to store inside each and every column of a table while creating a SQL table.

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57. What are the possible values that can be stored in a *BOOLEAN* data field?

TRUE and *FALSE*

58. What is the largest value that can be stored in a *BYTE* data field?

The largest number that can be represented in a single byte is 11111111 or 255. The number

of possible values is 256 (i.e. 255 (the largest possible value) plus 1 (zero), or 2^8**).**

59. What are Operators available in SQL?

SQL Operator is a reserved word used primarily in an SQL statement's WHERE clause to perform operations, such as arithmetic operations and comparisons. These are used to specify conditions in an SQL statement.

There are three types of Operators.

1. Arithmetic Operators
2. Comparison Operators
3. Logical Operators

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60. Which TCP/IP port does SQL Server run?

By default, it is 1433

61. List out the ACID properties and explain?

Following are the four properties of ACID. These guarantees that the database transactions are processed reliably.

- **Atomicity**
- **Consistency**
- **Isolation**
- **Durability**

62. Define the SELECT INTO statement.

The SELECT INTO statement copies data from one table into a new table. The new table will be created with the column-names and types as defined in the old table. You can create new column names using the AS clause.

```
1 SELECT * INTO newtable FROM oldtable WHERE condition;
```

63. What is the difference between Delete, Truncate and Drop command?

The difference between the Delete, Truncate and Drop command is

- Delete command is a DML command, it is used to delete rows from a table. It can be rolled back.
- Truncate is a DDL command, it is used to delete all the rows from the table and free the space containing the table. It cant be rolled back.
- Drop is a DDL command, it removes the complete data along with the table structure(unlike truncate command that removes only the rows). All the tables' rows, indexes, and privileges will also be removed.

64. What is the difference between Delete and Truncate?

The difference between the Delete, and Truncate are

DELETE	TRUNCATE
Delete statement is used to delete rows from a table. It can be rolled back.	Truncate statement is used to delete all the rows from the table and free the space containing the table. It cant be rolled back.
We can use WHERE condition in DELETE statement and can delete required rows	We cant use WHERE condition in TRUNCATE statement. So we cant delete required rows alone
We can delete specific rows using DELETE	We can only delete all the rows at a time using TRUNCATE
Delete is a DML command	Truncate is a DDL command
Delete maintains log and performance is slower than Truncate	Truncate maintains minimal log and performance wise faster
We need DELETE permission on Table to use DELETE command	We need at least ALTER permission on the table to use TRUNCATE command

65. What is the difference between Union and Union All command?

This is one of the tricky SQL Interview Questions. Interviewer may ask you this question in another way as what are the advantages of Union All over Union.

Both Union and Union All concatenate the result of two tables but the way these two queries handle duplicates are different.

Union: It omits duplicate records and returns only distinct result set of two or more select statements.

Union All: It returns all the rows including duplicates in the result set of different select statements.

Performance wise Union All is faster than Union, Since Union All doesn't remove duplicates. Union query checks the duplicate values which consumes some time to remove the duplicate records.

Assume: *Table1* has 10 records, *Table2* has 10 records. Last record from both the tables are same.

If you run Union query.

```
1 SELECT * FROM Table1
2 UNION
3 SELECT * FROM Table2
```

Output: Total 19 records

If you run Union query.

```
1 SELECT * FROM Table1
2 UNION ALL
3 SELECT * FROM Table2
```

Output: Total 20 records

Data type of all the columns in the two tables should be same.

66. What is CLAUSE in SQL?

SQL CLAUSE helps to limit the result set by providing a condition to an SQL Query. A CLAUSE helps to filter the rows from the entire set of records. SQL CLAUSES are WHERE & HAVING.

67. What is the difference between Having and Where clause?

Where clause is used to fetch data from a database that specifies particular criteria whereas a Having clause is used along with 'GROUP BY' to fetch data that meets particular criteria specified by the Aggregate functions. Where clause cannot be used with Aggregate functions, but the Having clause can.

68. What are aggregate functions in SQL?

SQL aggregate functions return a single value, calculated from values in a column. Some of the aggregate functions in SQL are as follows

- AVG() – This function returns the average value
- COUNT() – This function returns the number of rows
- MAX() – This function returns the largest value
- MIN() – This function returns the smallest value
- ROUND() – This function rounds a numeric field to the number of decimals specified
- SUM() – This function returns the sum

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69. What are string functions in SQL?

SQL string functions are used primarily for string manipulation. Some of the widely used SQL string functions are

- LEN() – It returns the length of the value in a text field
- LOWER() – It converts character data to lower case
- UPPER() – It converts character data to upper case
- SUBSTRING() – It extracts characters from a text field
- LTRIM() – It is to remove all whitespace from the beginning of the string
- RTRIM() – It is to remove all whitespace at the end of the string
- CONCAT() – Concatenate function combines multiple character strings together
- REPLACE() – To update the content of a string.

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70. What are user defined functions?

As the name suggests these are written by users as per their requirement. User-defined functions are the functions written to use a logic whenever required.

71. What are all types of user-defined functions?

There are three types of user-defined function, namely
• Scalar Functions
• Inline Table-valued functions
• Multi-statement valued functions

Scalar functions return unit, variant defined the return clause.
Inline Table-valued functions and Multi-statement valued functions return table as a return.

72. What is Self Join?

72. What is Self-Join?

A self-join is a join in which a table is joined with itself, especially when the table has a Foreign Key which references its own Primary Key.

73. What is Cross-Join?

Cross join produces a result set which is the number of rows in the first table multiplied by a number of rows in the second table if no WHERE clause is used along with Cross join. This kind of result is known as Cartesian Product. If suppose, Where clause is used in cross join then the query will work like an Inner join.

74. What is Collation?

Collation is defined as a set of rules that determine how character data can be sorted as well as compared. Character data is sorted using rules that define the correct character sequence along with options for specifying case-sensitivity, character width, accent marks, kana character types.

75. What are all different types of collation sensitivity?

Different types of collation sensitivity are as follows
Case Sensitivity: A and a and B and b.
Kana Sensitivity: Japanese Kana characters.
Width Sensitivity: Single byte character and double byte character.
Accent Sensitivity.

Practical SQL Query Interview Questions (SQL Server Queries examples with answers)

In this part, we will see SQL practice questions which contain both complex SQL queries interview questions and basic SQL Interview Questions. Let's see important SQL queries for interview

76. How to get unique records from a table?

By using DISTINCT keyword, we can get unique records from a table

```
1 SELECT DISTINCT Col1, Col2 from Table1
```

77. What is the command used to fetch the first 5 characters of a string?

Some of the ways to fetch the first 5 characters of a string are as follows:

```
SELECT RIGHT(EmpName,5) AS EmployeeName FROM Employee
SELECT SUBSTRING(EmpName,1,5) AS EmployeeName FROM Employee
```

78. How to add new Employee details in an Employee_Details table with the following details

Employee_Name: John, Salary: 5500, Age: 29?

```
INSERT into Employee_Details (Employee_Name, Salary, Age) VALUES ('John', 5500 , 29);
```

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79. How to add a column 'Salary' to a table Employee_Details?

```
ALTER TABLE Employee_Details ADD (Salary);
```

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80. How to change a value of the field 'Salary' as 7500 for an Employee_Name 'John' in a table Employee_Details?

```
UPDATE Employee_Details set Salary = 7500 where Employee_Name = 'John';
```

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81. Write an SQL Query to select all records from the table?

```
Select * from table_name;
```

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82. How To Get List of All Tables From A DataBase?

To view the tables available on a particular DataBase

```
USE TestDB
GO
SELECT * FROM sys.Tables
GO
```

83. Define SQL Delete statement.

The SQL Delete statement is used to delete records from a table.

```
DELETE FROM table_name WHERE some_column=some_value;
```

```
1 DELETE FROM table_name WHERE some_column=some_value;
```

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84. Write the command to remove all Players named Sachin from the Players table.

```
1 DELETE from Players WHERE Player_Name = 'Sachin'
```

85. How to fetch values from *TestTable1* that are not in *TestTable2* without using NOT keyword?

```
1 --------------
2 | TestTable1 |
3 --------------
4 |     11     |
5 |     12     |
6 |     13     |
7 |     14     |
8 --------------
```

```
1 --------------
2 | TestTable2 |
3 --------------
4 |     11     |
5 |     12     |
6 --------------
```

By using the `except` keyword

```
1 SELECT * FROM TestTable1 EXCEPT SELECT * FROM TestTable2;
```

86. How to get each name only once from an employee table?

By using the DISTINCT keyword, we could get each name only once.

```
1 SELECT DISTINCT employee_name FROM employee_table;
```

87. How to rename a column in the output of SQL query?

By using SQL AS keyword

```
1 SELECT column_name AS new_name FROM table_name;
```

88. What is the order of SQL SELECT?

Order of SQL SELECT statement is as follows

SELECT, FROM, WHERE, GROUP BY, HAVING, ORDER BY.

89. How to display the current date in SQL?

In SQL, there is a built-in function called GetDate() which helps to return the current date.

```
SELECT GetDate();
```

90. Write an SQL Query to find an Employee_Name whose Salary is equal or greater than 5000 from the below table Employee_Details.

```
| Employee_Name | Salary|
-----------------------------
| John          | 2500  |
| Emma          | 3500  |
| Mark          | 5500  |
| Anne          | 6500  |
-----------------------------
```

Syntax:

```
SELECT Employee_Name FROM Employee_Details WHERE Salary>=5000;
```

Output:

```
| Employee_Name | Salary|
-----------------------------
| Mark          | 5500  |
| Anne          | 6500  |
-----------------------------
```

91. Write an SQL Query to find list of Employee_Name start with ‘E’ from the below table

```
| Employee_Name | Salary|
-----------------------------
| John          | 2500  |
| Emma          | 3500  |
| Mark          | 5500  |
| Anne          | 6500  |
-----------------------------
```

Syntax:

```
SELECT * FROM Employee_Details WHERE Employee_Name like 'E%';
```

Output:

```
| Employee_Name | Salary|
-----------------------------
| Emma          | 3500  |
```

```
4 ---------------------------
```

92. Write SQL SELECT query that returns the FirstName and LastName from Employee_Details table.

```
1 SELECT FirstName, LastName FROM Employee_Details;
```

93. How to rename a Table?

```
1 SP_RENAME TABLE 'SCOREBOARD', 'OVERALLSCORE'
```

To rename Table Name & Column Name

```
1 sp_rename OldTableName,NewTableName
2 sp_rename 'TableName.OldColumnName', 'NewColumnName'
```

94. How to select all the even number records from a table?

To select all the even number records from a table:

```
1 Select * from table where id % 2 = 0
2
```

95. How to select all the odd number records from a table?

To select all the odd number records from a table:

```
1 Select * from table where id % 2 != 0
```

96. What is the SQL CASE statement?

SQL Case statement allows embedding an if-else like clause in the SELECT statement.

97. Can you display the result from the below table TestTable based on the criteria *M,m* as *M* and *F, f* as *F* and *Null* as *N* and *g, k, I* as *U*

```
1 SELECT Gender from TestTable
```

```
1  |  Gender  |
2  ------------
3  |     M    |
4  |     F    |
5  |   NULL   |
6  |     m    |
7  |     f    |
8  |     g    |
9  |     H    |
10 |     i    |
11 ------------
```

By using the below syntax we could achieve the output as required.

```
SELECT Gender,
case
when Gender='i' then 'U'
when Gender='g' then 'U'
when Gender='H' then 'U'
when Gender='NULL' then 'N'
else upper(Gender)
end as newgender from TestTable GROUP BY Gender
```

98. What will be the result of the query below?

```
select case when null = null then 'True' else 'False' end as Result;
```

This query returns “False”. In the above question, we could see null = null is not the proper way to compare a null value. To compare a value with null, we use IS operator in SQL.

So the correct way is as follows

```
select case when null is null then 'True' else 'False' end as Result;
```

99. What will be the result of the query below?

```
select case when null is null then 'Queries In SQL Server' else 'Queries In MySQL' end as Resu
```

This query will returns “Queries In SQL Server”.

100. How do you update F as M and M as F from the below table TestTable?

```
|  Name    |  Gender  |
------------------------
|  John    |     M    |
|  Emma    |     F    |
|  Mark    |     M    |
|  Anne    |     F    |
------------------------
```

By using the below syntax we could achieve the output as required.

```
UPDATE TestTable SET Gender = CASE Gender WHEN 'F' THEN 'M' ELSE 'F' END
```

101. Describe SQL comments?

Single Line Comments: Single line comments start with two consecutive hyphens (–) and ended by the end of the line
Multi-Line Comments: Multi-line comments start with /* and end with */. Any text between /* and */ will be ignored.

102. What is the difference between NVL function, IFNULL function, and ISNULL function?

These three functions work in the same way. These functions are used to replace NULL value with another value. Oracle developers use NVL function, MySQL developers use IFNULL function and SQL Server developers use ISNULL function.

Assume, some of the values in a column are NULL.
If you run below statement, you will get result as NULL

```
1 SELECT col1 * (col2 + col3) FROM Table1
```

Suppose any of the value in col3 is NULL then as I said your result will be NULL.

To overcome this we use NVL() function, IFNULL() function, ISNULL() Function.

ORACLE:

```
1 SELECT col1 * (col2 + NVL(col3,0)) FROM Table1
```

MySQL:

```
1 SELECT col1 * (col2 + IFNULL(col3,0)) FROM Table1
```

Also, you can use the COALESCE() function

```
1 SELECT col1 * (col2 + COALESCE(col3,0)) FROM Table1
```

SQL Server:

```
1 SELECT col1 * (col2 + ISNULL(col3,0)) FROM Table1
```

103. What is Database Testing?

It is AKA back-end testing or data testing.
Database testing involves in verifying the integrity of data in the front end with the data present in the back end. It validates the schema, database tables, columns, indexes, stored procedures, triggers, data duplication, orphan records, junk records. It involves in updating records in a database and verifying the same on the front end.

104. What is the difference between GUI Testing and Database Testing?

- GUI Testing is AKA User Interface Testing or Front-end testing
  Database Testing is AKA back-end testing or data testing.