SQL Server Questions

1**. What are the differences between local and global temporary tables?**

* Local temporary tables are visible when there is a connection, and are deleted when the connection is closed.
* Global temporary tables are visible to all users, and are deleted when the connection that created it is closed.

### 2. What is CHECK constraint?

A CHECK constraint can be applied to a column in a table to limit the values that can be placed in a column. Check constraint is to enforce integrity

**3. What is sub query and its properties?**

A sub-query is a query which can be nested inside a main query like Select, Update, Insert or Delete statements. This can be used when expression is allowed. Properties of sub query can be defined as

* A sub query should not have order by clause
* A sub query should be placed in the right hand side of the comparison operator of the main query
* A sub query should be enclosed in parenthesis because it needs to be executed first before the main query
* More than one sub query can be included

### 4. What is COALESCE in SQL Server?

COALESCE is used to return first non-null expression within the arguments. This function is used to return a non-null from more than one column in the arguments

### 5. How exceptions can be handled in SQL Server Programming?

Exceptions are handled using TRY—-CATCH constructs and it is handles by writing scripts inside the TRY block and error handling in the CATCH block.

### 6. What is a Trigger?

Triggers are used to execute a batch of SQL code when insert or update or delete commands are executed against a table. Triggers are automatically triggered or executed when the data is modified. It can be executed automatically on insert, delete and update operations.

### 7. What is an IDENTITY column in insert statements?

IDENTITY column is used in table columns to make that column as Auto incremental number or a surrogate key.

**8. What is the difference between UNION and UNION ALL?**

* UNION: To select related information from two tables UNION command is used. It is similar to JOIN command.
* UNION All: The UNION ALL command is equal to the UNION command, except that UNION ALL selects all values. It will not remove duplicate rows, instead it will retrieve all rows from all tables

**How can we get count of the number of records in a table?**

* Following are the queries can be used to get the count of records in a table –
* Select \* from <tablename> Select count(\*) from <tablename> Select rows from sysindexes where id=OBJECT\_ID(tablename) and indid<2

### 9. What is ISNULL() operator?

ISNULL function is used to check whether value given is NULL or not NULL in sql server. This function also provides to replace a value with the NULL

### 10. What is the difference between varchar and nvarchar types?

Varchar and nvarchar are same but the only difference is that nvarhcar can be used to store Unicode characters for multiple languages and it also takes more space when compared with varchar.

### 11. What is SQL injection?

SQL injection is an attack by malicious users in which malicious code can be inserted into strings that can be passed to an instance of SQL server for parsing and execution. All statements have to checked for vulnerabilities as it executes all syntactically valid queries that it receives.

Even parameters can be manipulated by the skilled and experienced attackers.

**12. What is the difference between clustered and non-clustered index?**

**Answer:**A **clustered index**is an index that rearranges the table in the order of the index itself. Its leaf nodes contain data pages. A table can have only one clustered index.

A**non-clustered index** is an index that does not re-arrange the table in the order of the index itself. Its leaf nodes contain index rows instead of data pages**.**A table can have many non-clustered indexes.

**13. What is the difference between a HAVING CLAUSE and a WHERE CLAUSE?**

**Answer:  The differences between HAVING CLAUSE and WHERE CLAUSE is:**

* Both specify a search condition but the HAVING clause is used only with the SELECT statement and typically used with GROUP BY clause.
* If the GROUP BY clause is not used, then the HAVING clause behaves like a WHERE clause only.

**14. Can we rename a column in the output of the SQL query?**

**Answer:** Yes, by using the following syntax we can do this.

|  |
| --- |
| **SELECT** column\_name **AS** new\_name **FROM** table\_name; |

**15. Is it possible to call a stored procedure within a stored procedure?**

**Answer:** Yes, we can call a stored procedure within a stored procedure. It is called the recursion property of the SQL server and these types of stored procedures are called nested stored procedures.

**16. What is Normalization?**

**Answer:** The process of table design to minimize the data redundancy is called normalization. We need to divide a database into two or more tables and define relationships between them. Normalization usually involves dividing a database into two or more tables and defining relationships between the tables.

**17. What are the advantages of having an index on the SQL Server?**

**Answer: The index has the following advantages:**

* Index supports the mechanism of having faster data retrieval from the database.
* This forms a data structure in a way that helps in minimizing data comparisons.
* This improves the performance of the retrieval of the data from the database.