***SQL Frequently Asked Questions***

1. **What is SQL?**

**Ans**: SQL stands for structured query language. It is a database language used for database creation, deletion, fetching rows and modifying rows etc. sometimes it is pronounced as se-qwell.

1. **Does SQL support programming?**

**Ans:** No, SQL doesn't have loop or Conditional statement. It is used like commanding language to access databases.

1. **What are the subsets of SQL?**

**Ans:**

1. Data definition language (DDL)
2. Data manipulation language (DML)
3. Data control language (DCL)
4. **What is data control language?**

**Ans:** Data control language allows you to control access to the database. It includes two commands GRANT and REVOKE.

**GRANT:** to grant specific user to perform specific task.

**REVOKE:** to cancel previously denied or granted permissions.

1. **What are tables and fields in database?**

**Ans:** A table is a set of organized data. It has columns and rows. Columns can be categorized as vertical, and Rows are horizontal.

A table contains specified number of column called fields but can have any number of rows which is known as record.

1. **What is a primary key?**

**Ans:** A primary key is a combination of fields which uniquely specify a row. This is a special kind of unique key. Primary key values cannot be NULL.

1. **What is a foreign key?**

**Ans:** A foreign key is specified as a key which is related to the primary key of another table. Relationship needs to be created between two tables by referencing foreign key with the primary key of another table.

1. **What is a unique key?**

**Ans:** Unique key constraint uniquely identifies each record in the database. This provides uniqueness for the column or set of columns.

1. **Which are the different types of indexes in SQL?**

**Ans:** There are three types of Indexes in SQL:

* Unique Index
* Clustered Index
* NonClustered Index

1. **What is Unique Index?**

**Ans: Unique Index:** This indexing does not allow the field to have duplicate values if the column is unique indexed. Unique index can be applied automatically when primary key is defined.

1. **What is Clustered Index in SQL?**

**Ans: Clustered Index:** The clustered index is used to reorder the physical order of the table and search based on the key values. Each table can have only one clustered index

1. **What is the difference between SQL, MySQL and SQL Server?**

**Ans:** SQL or Structured Query Language is a language which is used to communicate with a relational database. It provides a way to manipulate and create databases. On the other hand, MySQL and Microsoft's SQL Server both are relational database management systems that use SQL as their standard relational database language.

1. **What is the difference between SQL and PL/SQL?**

**Ans:** SQL or Structured Query Language is a language which is used to communicate with a relational database. It provides a way to manipulate and create databases. On the other hand, PL/SQL is a dialect of SQL which is used to enhance the capabilities of SQL. It was developed by Oracle Corporation in the early 90's. It adds procedural features of programming languages in SQL.

1. **Is it possible to sort a column using a column alias?**

**Ans:** Yes. You can use column alias in the ORDER BY clause for sorting.

1. **What is the difference between clustered and non clustered index in SQL?**

**Ans:** There are mainly two type of indexes in SQL, Clustered index and non clustered index. The differences between these two indexes is very important from SQL performance perspective.

1. One table can have only one clustered index but it can have many non clustered index.(approximately 250).
2. clustered index determines how data is stored physically in table. Actually clustered index stores data in cluster, related data is stored together so it makes simple to retrieve data.
3. reading from a clustered index is much faster than reading from non clustered index from the same table.
4. clustered index sort and store data rows in the table or view based on their key value, while non cluster have a structure separate from the data row.
5. **What is the SQL query to display current date?**

**Ans:** There is a built in function in SQL called GetDate() which is used to return current timestamp.

1. **What are the different types of joins in SQL? Explain these types?**

**Ans:** Joins are used to merge two tables or retrieve data from tables. It depends on the relationship between tables.

Following are the most commonly used joins in SQL:

* Inner Join
* Right Join
* Left Join
* Full Join

**Inner join:**

Inner join returns rows when there is at least one match of rows between the tables.

**Right Join:**

Right join is used to retrieve rows which are common between the tables and all rows of Right hand side table. It returns all the rows from the right hand side table even though there are no matches in the left hand side table.

**Left Join:**

Left join is used to retrieve rows which are common between the tables and all rows of Left hand side table. It returns all the rows from Left hand side table even though there are no matches in the Right hand side table.

**Full Join:**

Full join return rows when there are matching rows in any one of the tables. This means, it returns all the rows from the left hand side table and all the rows from the right hand side table.

1. **What is "TRIGGER" in SQL?**

**Ans:** Trigger allows you to execute a batch of SQL code when an insert, update or delete command is executed against a specific table.

Actually triggers are special type of stored procedures that are defined to execute automatically in place or after data modifications.

1. **What is the difference between BETWEEN and IN condition operators?**

**Ans:** The BETWEEN operator is used to display rows based on a range of values. The IN condition operator is used to check for values contained in a specific set of values.

1. **What is a constraint? Tell me about its various levels.**

**Ans:** Constraints are representators of a column to enforce data entity and consistency. There are two levels :

1. column level constraint
2. table level constraint
3. **Write an SQL query to find names of employee start with 'A'?**

**Ans: SELECT** \* **FROM** Employees **WHERE** EmpName like 'A%'

1. **Write an SQL query to get third maximum salary of an employee from a table named employee\_table.**

**Ans:**

1. **SELECT** **TOP** 1 salary
2. **FROM** (
3. **SELECT** **TOP** 3 salary
4. **FROM** employee\_table
5. **ORDER** **BY** salary **DESC** ) **AS** emp
6. **ORDER** **BY** salary **ASC**;
7. **What is the difference between DELETE and TRUNCATE statement in SQL?**

**Ans:** The main differences between SQL DELETE and TRUNCATE statements are given below:

|  |  |  |
| --- | --- | --- |
| **No.** | **DELETE** | **TRUNCATE** |
| 1) | DELETE is a DML command. | TRUNCATE is a DDL command. |
| 2) | We can use WHERE clause in DELETE command. | We cannot use WHERE clause with TRUNCATE |
| 3) | DELETE statement is used to delete a rowfrom a table | TRUNCATE statement is used to remove all the rowsfrom a table. |
| 4) | DELETE is slower than TRUNCATE statement. | TRUNCATE statement is faster than DELETE statement. |
| 5) | You can rollback data after using DELETE statement. | It is not possible to rollback after using TRUNCATE statement. |

1. **What is the difference among NULL value, zero and blank space?**

**Ans:** A NULL value is not same as zero or a blank space. A NULL value is a value which is 'unavailable, unassigned, unknown or not applicable'. On the other hand, zero is a number and blank space is treated as a character.

1. **What is the usage of NVL function?**

**Ans:** The NVL function is used to convert NULL value to a actual value.