Data Manipulation Language Statements

The DML statements are used to:

* Insert
* Delete
* Retrieve
* Modify/Update data in the table.

Insert Statement:

* Column list should be matched data values in the Values clause as well as data type otherwise error will occur.
* Data of type Char, Varchar2 and Date are always enclosed within single quotes. Example: ‘Costner’, ‘12-Jan-2005’.
* When the column list is omitted, the NULL keyword must be used in the values list to explicitly assign NULL values to columns. In addition, the sequence of data values must correspond exactly to the sequence of columns in the table. Example: insert into Customer\_Details values(‘Mainul Hasan’,’3350’, NULL);
* The Date value should be input in the format ‘dd-mmm-yyyy’ or ‘dd-mmm-yy’.

DELETE Statement:

* Even if all the data is deleted from the table, the definition of the table and its column is still stored in the database. The table still exists. To erase the definition of the table from the database, the DROP TABLE statement must be used.

Alter Statement:

* The ALTER TABLE statement is used to add, delete, or modify columns in an existing table.

In case of Primary Key:

* A table can have only one primary key. A table can have one or more foreign keys. If a table already has a primary key, adding a primary key using the ALTER TABLE statement results in error. The RDBMS will not allow a PRIMARY KEY constraint (using the ALTER TABLE statement) on column(s) if the column(s) has NULL or duplicate values.
* The ALTER TABLE statement cannot be used to change the name of a column or a table. It can be used to change the data type or length of the column. Columns to be modified should be empty to decrease column length. Columns to be modified should be empty to change the data type. If the table has only one column, the ALTER TABLE statement cannot be used to drop that column because that would render the table definition invalid.

DROP TABLE statement:

* The DROP TABLE statement is used to drop a table from the database.
* When the DROP TABLE statement removes a table from the database, its schema/ structure and all of its contents are lost. There is no way to recover the data.
* Most RDBMS will restrict the dropping of a table if it has attribute(s) being referred to by attribute(s) of another table. This is called the referential integrity constraint.

TRUNCATE TABLE statement:

* The TRUNCATE TABLE statement is used to remove/ delete all rows from a table.
* When the TRUNCATE TABLE statement is used, all the contents of the specified table are lost but its definition remains intact. There is no way to recover the data. It releases the memory occupied by the contents of the specified table.

Difference between TRUNCATE and DELETE statement

* TRUNCATE is a DDL statement whereas DELETE is a DML statement
* TRUNCATE deletes all records from the table whereas DELETE can be used to selectively delete records from a table using the WHERE clause
* TRUNCATE releases the memory occupied by the records of the table whereas DELETE does not do so
* Data removed using TRUNCATE cannot be recovered whereas data removed using DELETE can be recovered (using ROLLBACK, a DCL statement)