Structure Query Language (SQL)

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6.5.2.3 To Add column with Default Value

Alter command can add a new column to an existing table with default values. Following is the Syntax,

Alter table *table-name* add(**column-name1** *datatype1* **default** *data*);

Here is an Example for this,

Alter table Student add(dob date default '1-Jan-99');

The above command will add a new column with default value to the **Student** table

6.5.2.4 To Modify an existing Column

alter command is used to modify data type of an existing column . Following is the Syntax,

Alter table *table-name* modify(**column-name** *datatype*);

Here is an Example for this,

alter table Student modify(address varchar(30));

The above command will modify *address* column of the **Student table**

6.5.2.5 To Rename a column

Using alter command you can rename an existing column. Following is the Syntax,

Alter table *table-name* **rename** old-column-name to column-name;

Here is an Example for this,

alter table Student rename address to Location;

The above command will rename *address* column to *Location*.

6.5.2.6 To Drop a Column

alter command is also used to drop columns also. Following is the Syntax,

Alter table *table-name* drop(column-name);

Here is an Example for this, alter table Student drop(address);

The above command will drop *address* column from the **Student table**

6.5.3 Truncate Command

Truncate command removes all records from a table. However, this command will not destroy the table's structure. When we apply truncate command on a table, its Primary key is initialized. Following is its Syntax,

Truncate table *table-name*

Here is an Example explaining it.

Truncate table Student;

The above query will delete all the records of **Student** table.

Truncate command is different from **delete** command. Delete command will delete all the rows from a table whereas truncate command re-initializes a table (like a newly created table).

For egg. If you have a table with 10 rows and an auto increment primary key, if you use *delete* command to delete all the rows, it will delete all the rows, but will not initialize the primary key, hence if you will insert any row after using delete command, the auto increment primary key will start from 11. However, in case of *truncate* command, primary key is re-initialized.

6.5.4 Drop command

drop query completely removes a table from database. This command will also destroy the table structure. Following is its Syntax,

drop table *table-name*

Here is an Example explaining it.

Drop table Student;

The above query will delete the **Student** table completely. It can also be used on Databases. For Example, to drop a database,

 Drop database Test;

The above query will drop a database named **Test** from the system.

6.5.5 Rename query

Rename command is used to rename a table. Following is its Syntax,

Rename table *old-table-name* to *new-table-name*

Here is an Example explaining it.

Rename table Student to Student-record;

The above query will rename **Student** table to **Student-record**.

6.6 Data Manipulation Language (DML) command

Data Manipulation Language (DML) statements are used for managing data in database. DML commands are not auto-committed. It means changes made by DML command are not permanent to database, it can be rolled back.

6.6.1 INSERT command

Insert command is used to insert data into a table. Following is its general syntax,

INSERT into *table-name* values(data1,data2,..)

Lets see an example,

Consider a table **Student** with following fields.

S_id	S_Name	age

INSERT into Student values(101,'Adam',15);

The above command will insert a record into **Student** table.

S_id	S_Name	age
101	Adam	15

Example to Insert NULL value to a column

Both the statements below will insert NULL value into **age** column of the Student table.

INSERT into Student (id,name) values(102,'Alex');

Or,

INSERT into Student values(102,'Alex',null);

The above command will insert only two column value other column is set to null.

S_id	S_Name	age
101	Adam	15
102	Alex	

Example to Insert Default value to a column

INSERT into Student values(103,'Chris',default)

S_id	S_Name	age
101	Adam	15
102	Alex	
103	Chris	14

Suppose the **age** column of student table has default value of 14.

Also, if you run the below query, it will insert default value into the age column, whatever the default value may be.

INSERT into Student values(103,'Chris')

6.6.2 UPDATE command

Update command is used to update a row of a table. Following is its general syntax,

UPDATE *table-name* set column-name = value *where* **condition**;

Let's see an example,

update Student set age=18 where s_id=102;

S_id	S_Name	age
101	Adam	15
102	Alex	18
103	Chris	14

Example to Update multiple columns

UPDATE Student set s_name='Abhi',age=17 where s_id=103;

The above command will update two columns of a record.

S_id	S_Name	age
101	Adam	15
102	Alex	18
103	Abhi	17

6.6.3 Delete command

Delete command is used to delete data from a table. Delete command can also be used with condition to delete a particular row. Following is its general syntax,

DELETE from *table-name*;

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Example to delete all Records from a Table

DELETE from Student;

The above command will delete all the records from **Student** table.

Example to delete a particular Record from a Table

Consider the following **Student** table

S_id	S_Name	age
101	Adam	15
102	Alex	18
103	Abhi	17

DELETE from Student where s_id=103;

The above command will delete the record where s_id is 103 from **Student** table.

S_id	S_Name	age
101	Adam	15
102	Alex	18

6.7 WHERE clause

Where clause is used to specify condition while retrieving data from table. *Where* clause is used mostly with *Select, Update* and *Delete* query. If condition specified by *where* clause is true then only the result from table is returned.

Syntax for WHERE clause

SELECT column-name1,

 Column-name2,

 Column-name3,

 column-nameN

From table-name **WHERE [condition]**;

Example using WHERE clause

Consider a **Student** table,

s_id	s_Name	Age	address
101	Adam	15	Noida
102	Alex	18	Delhi
103	Abhi	17	Rohtak
104	Ankit	22	Panipat

Now we will use a SELECT statement to display data of the table, based on a condition, which we will add to the SELECT query using WHERE clause.

SELECT s_id,

 s_name,

 age,

 address

from Student **WHERE** s_id=101;

s_id	s_Name	Age	address
101	Adam	15	Noida

6.8 SELECT Query

Select query is used to retrieve data from a tables. It is the most used SQL query. We can retrieve complete tables, or partial by mentioning conditions using WHERE clause.

Syntax of SELECT Query

SELECT column-name1, column-name2, column-name3, column-nameN
from *table-name*;

Example for SELECT Query

Conside the following **Student** table,

S_id	S_Name	Age	address
101	Adam	15	Noida
102	Alex	18	Delhi
103	Abhi	17	Rohtak
104	Ankit	22	Panipat

SELECT s_id, s_name, age from Student.

The above query will fetch information of s_id, s_name and age column from Student table

S_id	S_Name	Age
101	Adam	15
102	Alex	18
103	Abhi	17
104	Ankit	22