SQL Commands

Structured Query language (SQL) is used to handle data with the help of commands. Some of the most commonly used SQL commands are as follows:

- **SELECT:** This command is used to retrieve data from one or more tables in a database. The syntax of the SELECT command is as follows:

```
SELECT * FROM Table_Name;
```

The syntax implies that the user needs to start with the SELECT keyword for retrieving the data, the asterisk (*) sign is used to retrieve all the records from the database, and the keyword FROM is used to specify the table to which the columns belong to.

You can also select specific columns from the table. For example, consider the Car_Model table:

CAR_MODEL			
Company	**Country**	**Model**	**Colour**
Toyota	Japan	Camry	Silver
Honda	Japan	Accord	Grey
Chevrolet	USA	Beat	Green
BMW	Germany	BMW 3	Black

Now, if we want to retrieve the Country column from this table, the SQL statement would be as follows:

```
SELECT Country FROM Car_Model
```

The preceding query would display the records of the Country column of the Car_Model table.

You can also use the SELECT command with the various clauses, such as WHERE and ORDER BY, to find and retrieve any specific data.

The syntax of using the WHERE clause with the SELECT command is:

```
SELECT * FROM Car_Model WHERE "Country" = 'Japan'
```

The syntax of using the ORDER BY clause with the SELECT command is:

```
SELECT * FROM Car_Model ORDER BY "Country" ASC
```

> **Note**
>
> You can use the DESC keyword to retrieve the records in the descending order.

- **CREATE:** This command is used to create table in a database. The syntax to create a table using the CREATE command is as follows:
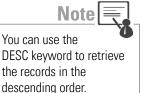
```
CREATE TABLE "Table Name" ("Table_Field" Data Type, "Table_Field" Data
Type);
```

The SQL command to create a table, named Book Details, by using the CREATE command is:

```
CREATE TABLE "Book_Details" ("Book_ID" INTEGER,"Book_Name" VARCHAR (50),
Department" VARCHAR (50);
```

- **INSERT:** This command is used to add new records in an existing table. The syntax of the INSERT command is as follows:

```
INSERT INTO "Table_Name" ("Column_Name", Column_Name", "Column_Name",…)
VALUES ('Value1', 'Value2','Value3',…);
```

Now, consider that we want to insert one more row with values as Audi (under the Company column), Germany (under the Country column), A4 (under the Model column), and White (under the Colour column) in the Car_Model table. The SQL statement to insert this data in the table would be as follows:

```
INSERT INTO "Car_Model"("Company", "Country", "Model", "Color") VALUES
('Audi', 'Germany', 'A4', 'White');
```

The following result will be displayed:

COMPANY	COUNTRY	MODEL	COLOUR
Toyota	Japan	Camry	Silver
Honda	Japan	Accord	Grey
Chevrolet	USA	Beat	Green
BMW	Germany	BMW 3	Black
Audi	Germany	A4	White

- **UPDATE:** This command is used to update the existing records in a table. The syntax of the UPDATE command is:

```
UPDATE "Table_Name" SET ["Column_Name"= 'Value', "Column_Name" = 'value'
...] WHERE [Contition];
```

Now, consider that we want to update the color of the car of BMW company from Black to White in the Car_Model table. The SQL statement for this would be as follows:

```
UPDATE "Car_Model" SET "Color" = 'White' WHERE "Company" = 'BMW';
```

The following result will be displayed:

COMPANY	COUNTRY	MODEL	COLOUR
Toyota	Japan	Camry	Silver
Honda	Japan	Accord	Grey
Chevrolet	USA	Beat	Green
BMW	Germany	BMW 3	White
Audi	Germany	A4	White

- **DELETE:** This command is used to delete one or more records from the table in a database. The syntax of the DELETE command is:

```
DELETE FROM "Table_Name" WHERE [Condition];
```

Now, consider that we want to delete the row containing the records of the Chevrolet company in the Car_Model table. The SQL statement for this would be as follows:

```
DELETE FROM "Car_Model" WHERE "Company" = 'Chevrolet';
```

The following result will be displayed:

COMPANY	COUNTRY	MODEL	COLOUR
Toyota	Japan	Camry	Silver
Honda	Japan	Accord	Grey
BMW	Germany	BMW 3	White
Audi	Germany	A4	White

- **DROP:** This command is used to delete an entire table from the database. The syntax of the DROP command is:

```
DROP TABLE "Table_Name";
```

Now, consider that we want to delete the Car_Model table from the database. The SQL statement for this would be as follows:

```
DROP TABLE "Car_Model";
```

The Car_Model table gets deleted from the database.

Solved Questions

1. Write the SQL commands to answer the queries based on the Garment table.

GARMENT			
GarmentID	Gname	Type	Disc
G001	Shirt	Woolen	10
G002	Suit	Cotton	20
G003	Tunic	Cotton	10
G004	Jeans	Denim	5
G006	Shorts	Cotton	7

a. To insert the following record:

```
("G005", "Kurta", "Woolen",5)
```

b. To display only those garments whose Disc is more than 10.

c. To display those records whose type is 'Woolen'.

d. To modify the discount on a garment shirt by increasing the discount of 10.

e. To delete the record of garment G003 from the table.

Ans.

a. INSERT into Garment values ("G005", "Kurta", "Woolen", 5)

b. SELECT * from Garment WHERE Disc>10

c. SELECT * from Garment WHERE Type = "Woolen"

d. UPDATE Garment set Disc = Disc + 10 where Gname = "Shirt"

e. DELETE from Garment WHERE Garment ID = "G003"

2. Create a table, BOOK, with the following specifications:

BOOK ID Char (4)

Bname Varchar (15)

Author Varchar (20)

Price Decimal

Identify the primary key of the BOOK table and mention the reason for choosing it as the primary key.

Ans.

The syntax to create the BOOK table is:

CREATE table BOOK (BOOK ID char(4), Bname varchar(15), Author varchar(20), Price Decimal)

BOOK ID is the primary key of the BOOK table as duplicate values are not allowed in this column.