Queries with tables & constraints

Below is customer table with details related to customer:-

id	branch_id	first_name	last_name	DOB	gender

This is the table we want to create with Primary Key as Id, below is the query for it -

```
CREATE TABLE customer(
        id INT          NOT NULL,
        branch_id INT NOT NULL,
        first_name VARCHAR(20),
        last_name VARCHAR(20),
        DOB INT,
        gender CHAR(6),
        PRIMARY KEY(id)
);
```

In the above query we have declared id as PRIMARY KEY.

What is the Primary key?
Ans.
Primary Key helps us to uniquely Identify a tuple in a table. It is NOT NULL and UNIQUE.
Each table has only one primary key. But a primary key can have one or more columns(fields) as part of Primary Key. In case we have multiple fields as Primary key it is called **Composite Key** and all the conditions that apply to single field Primary Key applies to multiple field Composite Key as well.

Let's say for same customer table we want id and branch id as PRIMARY KEY we can use below mentioned declaration if we haven't declared the table yet -

```
CREATE TABLE customer(
        id INT          NOT NULL,
        branch_id INT NOT NULL,
        first_name VARCHAR(20),
        last_name VARCHAR(20),
        DOB INT,
        gender CHAR(6),
        PRIMARY KEY(id, branch_id)
```

);

Let's say we have declared table as mentioned below -

```
CREATE TABLE customer(
        id INT          NOT NULL,
        branch_id INT NOT NULL,
        first_name VARCHAR(20),
        last_name VARCHAR(20),
        DOB INT,
        gender CHAR(6)
);
```

In case we want to make any attribute as Primary Key we need to use ALTER keyword for that as mentioned below -

ALTER TABLE CUSTOMER ADD PRIMARY KEY (ID);

Note:- Primary Key column should already have been declared as NOT NULL at the time of creating the table.

Similarly, we can declare composite primary key(assuming columns or attributes we want to use are declared as NOT NULL) as done below -

ALTER TABLE CUSTOMERS ADD CONSTRAINT Pkey_Custid PRIMARY KEY(ID, NAME);

We have learnt to declare primary key and all the conditions associated for column(s) to be Primary key now let us discuss **how to delete a primary key** -

Let us say have declared a table as below mentioned -

```
CREATE TABLE customer(
        id INT          NOT NULL,
        branch_id INT NOT NULL,
        first_name VARCHAR(20),
        last_name VARCHAR(20),
        DOB INT,
        gender CHAR(6),
        PRIMARY KEY(id)
);
```

Now we want to delete id primary key we will use ALTER and DROP keyword as mentioned below -

ALTER TABLE CUSTOMERS DROP PRIMARY KEY;

What is Foreign Key?
Foreign Key refers to the Primary Key of another table. Each table can have any number of foreign key(s).

Lets us say we have customer and account table with details mentioned below -

customer table-

id	branch_id	first_name	last_name	DOB	gender

account table-

id	balance	customer_id

Declaring customer table -

```
CREATE TABLE customer(
    id INT          NOT NULL,
    branch_id INT NOT NULL,
    first_name VARCHAR(20),
    last_name VARCHAR(20),
    DOB INT,
    gender CHAR(6),
    PRIMARY KEY(id)
);
```

Declaring account table with Primary Key and Foreign Key -

```
CREATE TABLE account(
    id INT NOT NULL,
    balance INT,
    customer_id INT NOT NULL,
    PRIMARY KEY(id),
    FOREIGN KEY(customer_id) REFERENCES customer(id)
);
```