SQL - PRIMARY KEY

A primary key is a field in a table which uniquely identifies each row/record in a database table. Primary keys must contain unique values. A primary key column cannot have NULL values.

A table can have only one primary key, which may consist of single or multiple fields. When multiple fields are used as a primary key, they are called a **composite key**.

If a table has a primary key defined on any field$s$, then you can not have two records having the same value of that field$s$.

Note: You would use these concepts while creating database tables.

Create Primary Key:

Here is the syntax to define ID attribute as a primary key in a CUSTOMERS table.

```
CREATE TABLE CUSTOMERS(
      ID   INT              NOT NULL,
      NAME VARCHAR (20)     NOT NULL,
      AGE  INT              NOT NULL,
      ADDRESS  CHAR (25) ,
      SALARY   DECIMAL (18, 2),
      PRIMARY KEY (ID)
);
```

To create a PRIMARY KEY constraint on the "ID" column when CUSTOMERS table already exists, use the following SQL syntax:

```
ALTER TABLE CUSTOMER ADD PRIMARY KEY (ID);
```

NOTE: If you use the ALTER TABLE statement to add a primary key, the primary key column$s$ must already have been declared to not contain NULL values $when the table was first created$.

For defining a PRIMARY KEY constraint on multiple columns, use the following SQL syntax:

```
CREATE TABLE CUSTOMERS(
      ID   INT              NOT NULL,
      NAME VARCHAR (20)     NOT NULL,
      AGE  INT              NOT NULL,
      ADDRESS  CHAR (25) ,
      SALARY   DECIMAL (18, 2),
      PRIMARY KEY (ID, NAME)
);
```

To create a PRIMARY KEY constraint on the "ID" and "NAMES" columns when CUSTOMERS table already exists, use the following SQL syntax:

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

Delete Primary Key:

You can clear the primary key constraints from the table, Use Syntax:

```
ALTER TABLE CUSTOMERS DROP PRIMARY KEY ;
```

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