


# TYPE OF KEYS IN SQL




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SQL (Structured Query Language), there are several types of keys used to uniquely identify and establish relationships between rows in database tables.



# PRIMARY KEY (PK)

A primary key is a column or a set of columns that uniquely identifies each row in a table.

A table can have only one primary key

```
sql
```

```
CREATE TABLE Students (  
    StudentID INT PRIMARY KEY,  
    Name VARCHAR(100),  
    Age INT  
);
```

# FOREIGN KEY (FK)

A foreign key is a column or a set of columns in one table that establishes a link between data in two tables. The foreign key in the child table references the primary key in the parent table

sql

```
CREATE TABLE Enrollments (  
    EnrollmentID INT PRIMARY KEY,  
    StudentID INT,  
    CourseID INT,  
    FOREIGN KEY (StudentID) REFERENCES Students(StudentID)  
);
```

# UNIQUE KEY (UK)

A unique key is a column or a set of columns that ensures all values in the column(s) are unique across the table.

Unlike primary keys,  
a table can have multiple unique  
keys.

sql

```
CREATE TABLE Users (  
    UserID INT PRIMARY KEY,  
    Email VARCHAR(100) UNIQUE,  
    Username VARCHAR(50) UNIQUE  
);
```

# CANDIDATE KEY

A candidate key is a column or a set of columns that can uniquely identify any row in the table.

Each candidate key can potentially be a primary key.

sql

```
CREATE TABLE Books (  
    ISBN VARCHAR(20),  
    Title VARCHAR(200),  
    Author VARCHAR(100),  
    PRIMARY KEY (ISBN),  
    UNIQUE (Title, Author)  
);
```

# COMPOSITE KEY

A composite key is a primary key or unique key that consists of more than one column.

sql

```
CREATE TABLE Orders (  
    OrderID INT,  
    ProductID INT,  
    PRIMARY KEY (OrderID, ProductID)  
);
```

# ALTERNATE KEY



An alternate key is any candidate key that is not chosen as the primary key.

sql

```
CREATE TABLE Books (  
    ISBN VARCHAR(20) NOT NULL,  
    Title VARCHAR(200) NOT NULL,  
    Author VARCHAR(100) NOT NULL,  
    Publisher VARCHAR(100),  
    PublicationYear INT,  
    PRIMARY KEY (ISBN),  
    UNIQUE (Title, Author)  
);
```



# SUPER KEY

A super key is a set of one or more columns (attributes) that can uniquely identify a row in a table. This set can contain extra columns that are not necessary for unique identification.

sql

```
CREATE TABLE Employees (  
    EmployeeID INT,  
    SocialSecurityNumber CHAR(11),  
    Email VARCHAR(100),  
    PRIMARY KEY (EmployeeID),  
    UNIQUE (SocialSecurityNumber),  
    UNIQUE (Email)  
);
```

THANK  
YOU



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