**What is a primary key?**

A primary key is a special relational database table column, which is designated to uniquely identify each table record, each record has its own primary key, which allows for the ease of traversing the data-table to parse and gather said data.

To have a primary key, it must contain a unique value for each row of data within the database, it can’t contain null values, and each row must have a primary key value.

**Provide characteristics and an example for what type of field could be used as a primary key.**

To have a primary key, it would be best to use an integer value as the primary key for the database, while fixed length data types would also be acceptable.

An example of a primary key would be as follows, let’s say you are to make a table that contains people, this is what it would be.

CREATE TABLE Persons (  
    ID int NOT NULL,  
    LastName varchar(255) NOT NULL,  
    FirstName varchar(255),  
    Age int,  
    PRIMARY KEY (ID) <=====  
);

This above code block creates the primary key on the “ID” column when the table is created.

**Does each table need a primary key?**

Each table can, but it does not need to have a primary key, it is better to have each table with a primary key, as it makes it a lot easier to traverse the database. Also, having primary keys allows for joins on database’s to be a lot easier as well, without having keys, it’ll be a lot harder to join. It’s also very much needed to keep intact the database normalization, if you didn’t have a key, you wouldn’t be able to have a first normal form database. However, sometimes it isn’t needed at all, especially if you know your database isn’t really going to change much at all, a key just uses more memory than needs to be used.