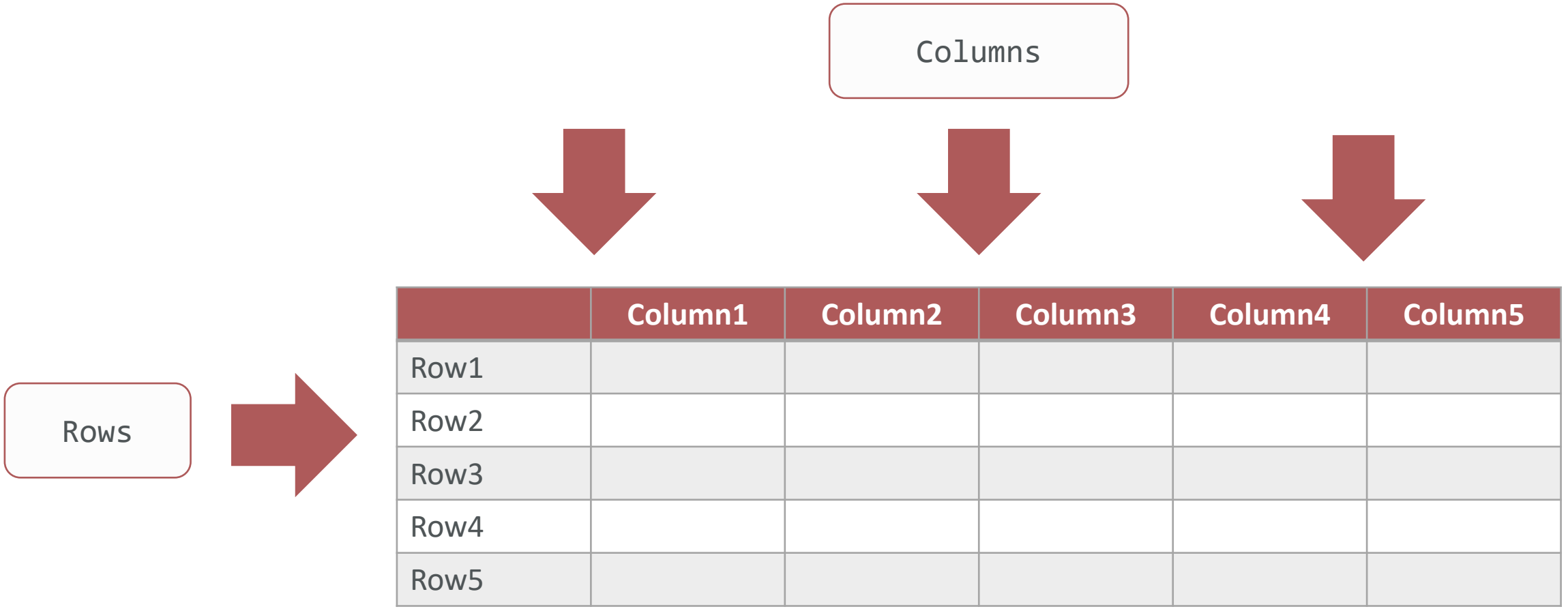
Section 4: Creating and Inserting into tables

- *Table Structure*
- *Data Types*
- *Creating Tables*
- *Dropping Tables*
- *Inserting Data*
- *Tables with null values*
- *Creating Tables with Primary keys*
- *If Object_ID*



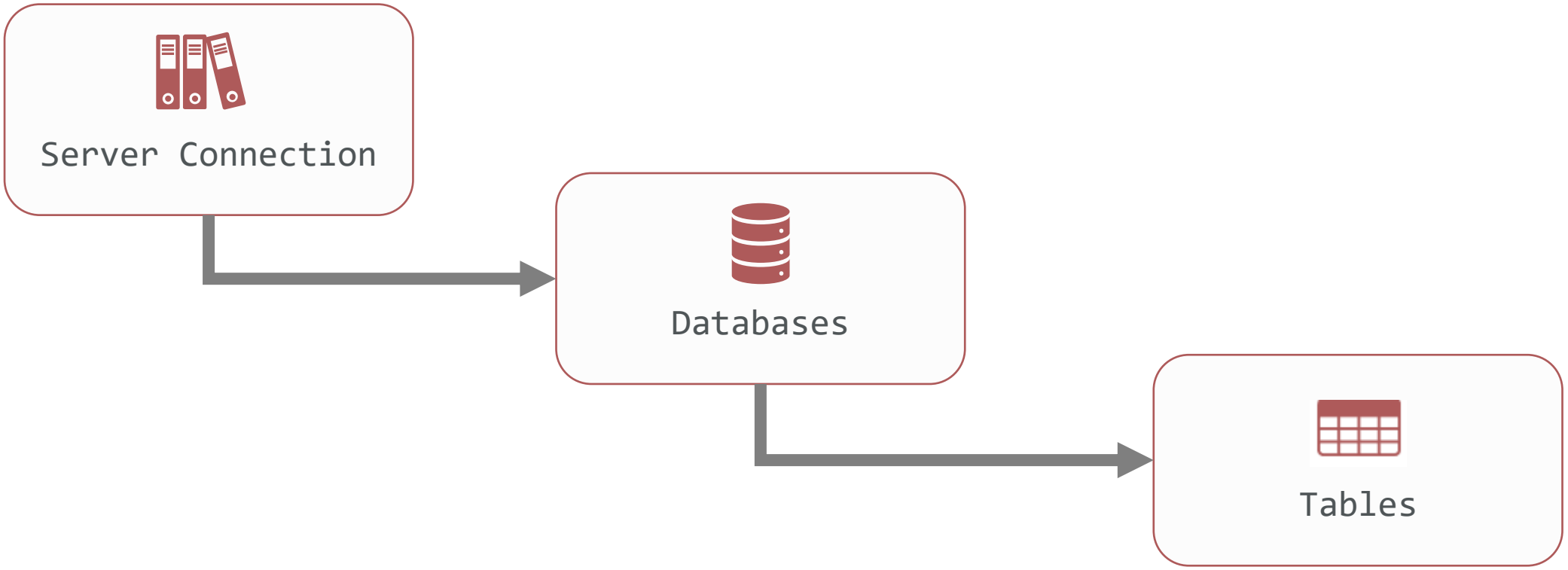
	Column1	Column2	Column3	Column4	Column5
Row1					
Row2					
Row3					
Row4					
Row5					

What is a datatype and why are they important?

Patient Name	Charges	Visits	Charge per visit
Bob	$500	2	$250
Jill	$3,000	4	$750
Jack	$5,000	Six	??!??
Dorothy	$5,000	8	$625

$3,000/4 = $750

Data Type	Description	Example
Int	Integers that are whole numbers. There are maximum and minimum values in SQL server (-/+ 2,147,483,648)	2,4,8,3000
Varchar	Variable text character. Must specify the number of characters	Hello, Text
Datetime	Stores date and time	YYYY-MM-DD H:MM:SS
Decimal	Decimal points and cannot have more than 38 digits	8.9


Server Connection
Databases
Tables

```
Create Table TableName
   (Column1 datatype
   ,Column2 datatype
   ,Column3 datatype…)

-> CREATE TABLE TestTable
   (PatientID varchar(255)
    ,PatientName varchar(255)
    ,PatientState varchar(255)
    ,Gender varchar(255)
    ,Visits int
    ,Charges int)
```

Section 4: Dropping Tables

```
Drop Table TableName
```

-> Drop TABLE TestTable

-> Example Statement

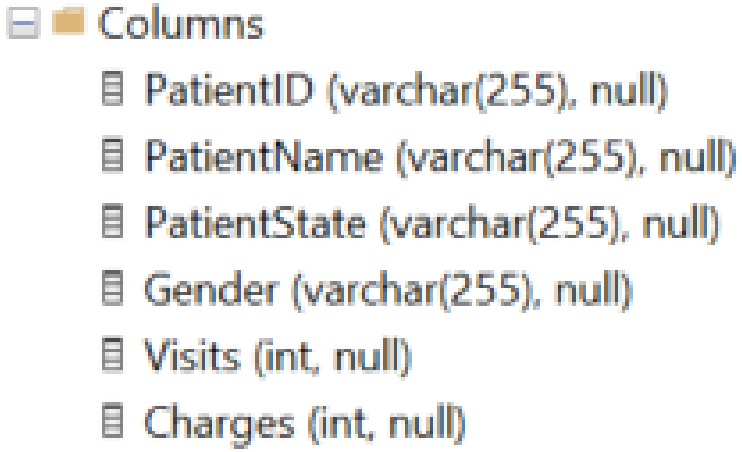
```
Insert Into TableName
  (column1, column2, column3, etc.)
Values (Value1, Value2, Value3, etc.)
```

```
-> INSERT INTO TestTable
(PatientID ,PatientName
,PatientState ,Gender ,Visits ,Charges)
VALUES ('12345','John','AL','M','3','200')
```

-> Example Statement

```
      -> INSERT INTO TestTable
(PatientID ,PatientName ,PatientState ,Gender ,Visits ,Charges)
          VALUES ('12345','John','AL','M','3','200’)
                ,('12346','Jane','AK','F','1','400’)
                ,('12347','Alex','AZ','F','6','900’)
                ,('12348','Bob','CA','M','7','8000’)
                ,('12349','Josh','CO','M','12','19000’)
                ,('12350','Stephanie','FL','F','18','25000’)
                ,('12351','Amber','GA','F','4','400’)
                ,('12352','Brittany','GA','F','6','4000’)
                ,('12353','Bill','UT','M','8','5000’)
                ,('12354','Nate','WY','M','22','28000')
```

-> Example Statement




```
->INSERT INTO TestTable
(PatientName)
VALUES ('Fred')
```

```
-> Select * from TestTable
```

-> Example Statement

Section 4: Null Values – Setting a default

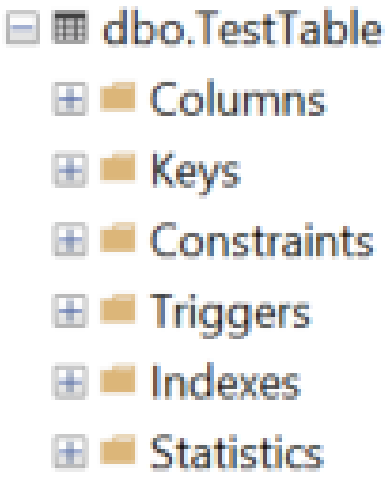
Null Value Reminders

1. A null value is not the same thing as a zero value
2. A Null value has been left blank
3. If you the field is optional, then a null value can be saved there
4. SQL allows default value rather than Null

-> Example Statement

```
-> CREATE TABLE TestTable
(PatientID varchar(255) NOT NULL,
PatientName varchar(255) NOT NULL,
PatientState varchar(255) NOT NULL,
Gender varchar(255) NOT NULL,
Visits int NULL
,Charges int NULL Default 0)
```

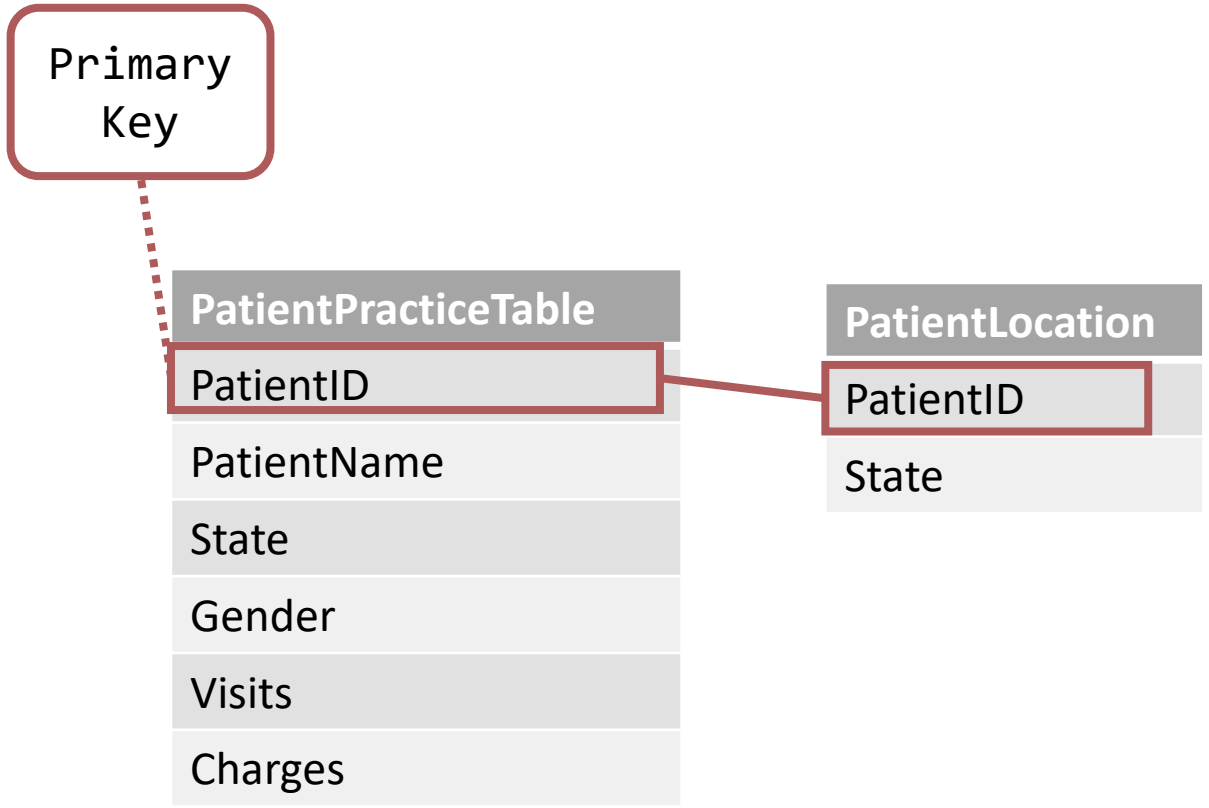
Rather than leaving the value as NULL we can create a default value, such as “0”



PatientID	PatientName	PatientSta	Gender	Visits	Charges
12355	Fred	CA	M	3	500
12355	Fred	CA	M	3	500
12355	Fred	CA	M	3	500
12355	Fred	CA	M	3	500
12355	Fred	CA	M	3	500
12355	Fred	CA	M	3	500

-> Example Statement

Section 4: Primary Keys



PatientID	PatientName	Gender	Visits	Charges
12345	John	M	3	$ 200
12346	Jane	F	1	$ 400
12347	Alex	F	6	$ 900
12348	Bob	M	7	$ 8,000
12349	Josh	M	12	$ 19,000
12350	Stephanie	F	18	$ 25,000
12351	Amber	F	4	$ 400
12352	Brittany	F	6	$ 4,000
12353	Bill	M	8	$ 5,000
12354	Nate	M	22	$ 28,000

PatientID	State
12345	AL
12346	AK
12347	AZ
12348	CA
12349	CO
12350	FL
12351	GA
12352	GA
12353	UT
12354	WY

PatientID	PatientName	State	Gender	Visits	Charges
12345	John	AL	M	3	$ 200

-> Example Statement

Primary Key Reminders

1. A Primary key must contain unique values
2. A table can only have one primary key
3. The primary key identifies each record in a table and can connect multiple tables together

-> Example Statement

```
-> CREATE TABLE TestTable
(PatientID int NOT NULL PRIMARY KEY,
PatientName varchar(255) NULL,
PatientState varchar(255) NULL,
Gender varchar(255) NULL,
Visits int NULL,
Charges int NULL Default 0)
```

```
   IF OBJECT_ID('TableName') IS NOT NULL DROP TABLE TableName
   GO

-> IF OBJECT_ID('TestTable') IS NOT NULL DROP TABLE TestTable
   GO
```

-> Example Statement

Section 4: Self Evaluation

Step 1: Use the database “SQL_Course” (created in previous self evaluation)
Step 2: Create a table called “SQL_CourseTable”
Step 3: This table will have 4 columns – “ID, Name, Address, Visits”
- DataTypes
  - ID – varchar(50)
  - Name – varchar(255)
  - Address – varchar(255)
  - Visits - int

Step 4: Make ID a primary key
Step 5: ID cannot have null values
Step 6: If “Visits” has a null value then set default value to “0”
Step 7: Insert 5 rows of data (make up your own data)

```
-> Example Statement
```