Basic Database Operations – I

https://github.com/KrishnaMentor/CN-02-TTS

- ✅ Import datasets into MySQL Workbench
- ✅ Use SELECT statements to explore data
- ✅ Understand and apply the DESCRIBE function
- ✅ Recognise SQL data types 🧠
- ✅ Use the WHERE clause for filtering 🔍

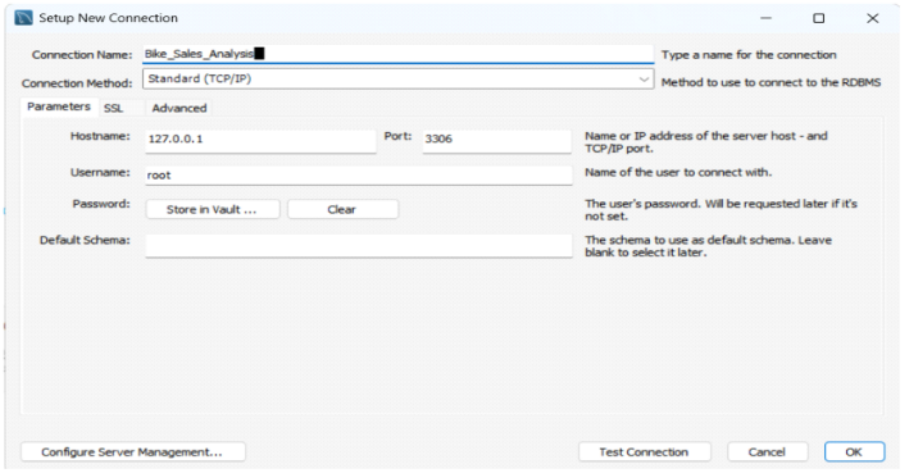
Dataset

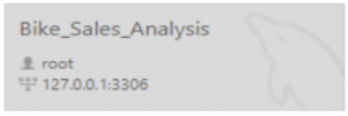
- Calendar.xlsx
- Customers.xlsx
- Product-Categories.xlsx
- Product-Subcategories.xlsx
- Products.xlsx
- Returns.xlsx
- Sales-2015.xlsx
- Sales-2016.xlsx
- Sales-2017.xlsx
- Territories.xlsx

MySQL Work Bench / Command Line

GUI[Graphical User Interface]

MySQL Connections ⊕





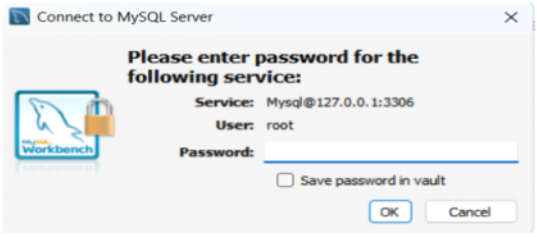
Name Convention

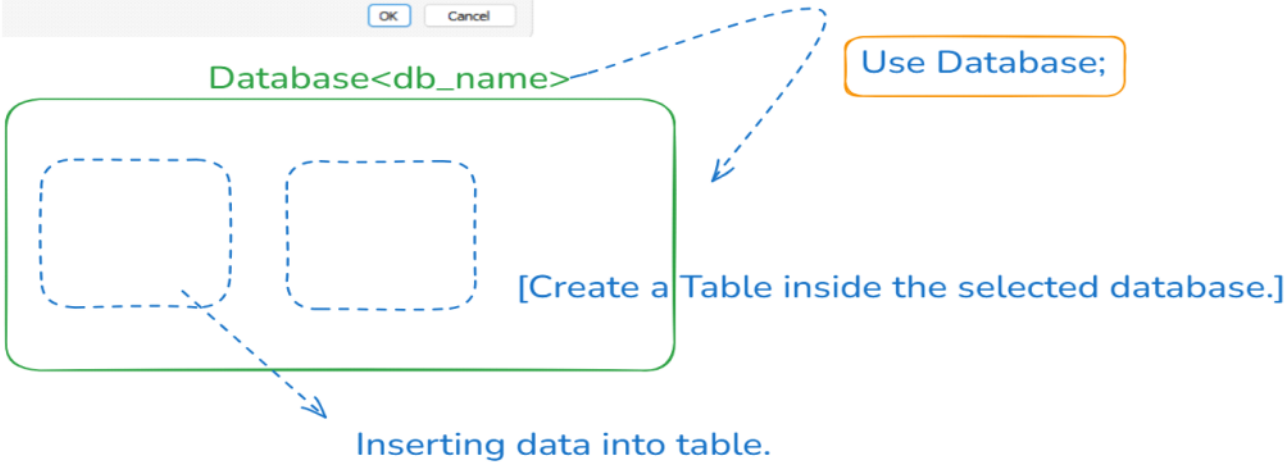
Never Give space while naming database.

`Coding Ninja` → wrap the name having space with backticks ``

Snake_case -> coding_ninja

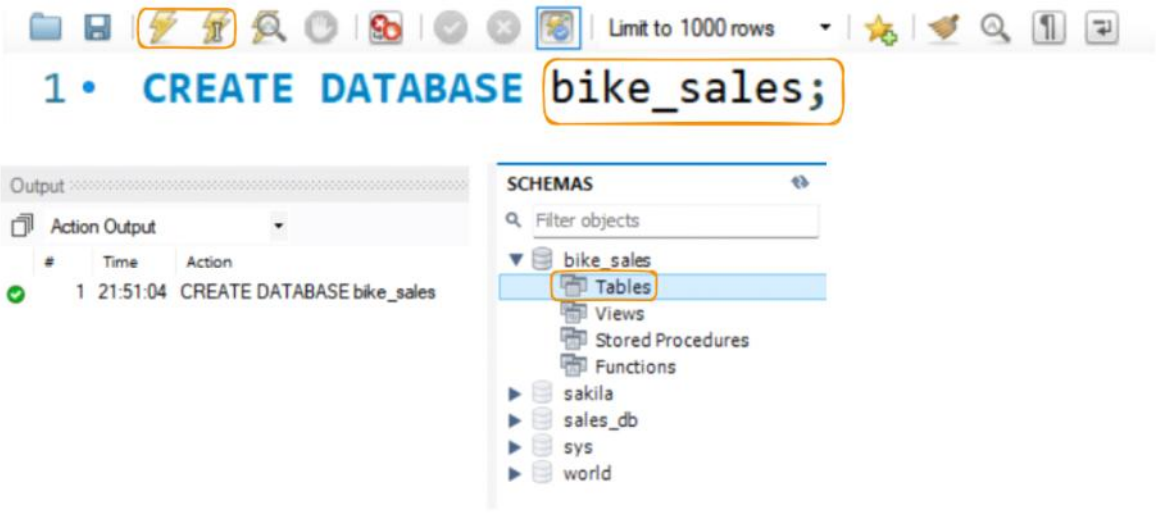
camelCase -> codingNinja





Syntax For Creating a Database

```
CREATE DATABASE <db_name>;
```




```
DROP DATABASE bike_sales;
```
Removes the database.

```
MySQL 8.0 Command Line Cli
Enter password: **********
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 32
Server version: 8.0.42 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.
```
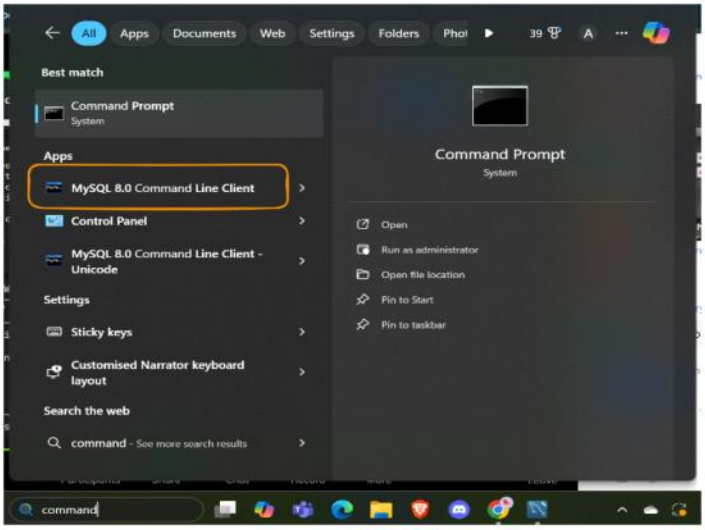

```
mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sakila             |
| sales_db           |
| sys                |
| world              |
+--------------------+
7 rows in set (0.03 sec)
```

```
mysql> CREATE DATABASE bike_sales;
Query OK, 1 row affected (0.05 sec)

mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| bike_sales         |
| information_schema |
| mysql              |
| performance_schema |
| sakila             |
| sales_db           |
| sys                |
| world              |
+--------------------+
8 rows in set (0.04 sec)
```

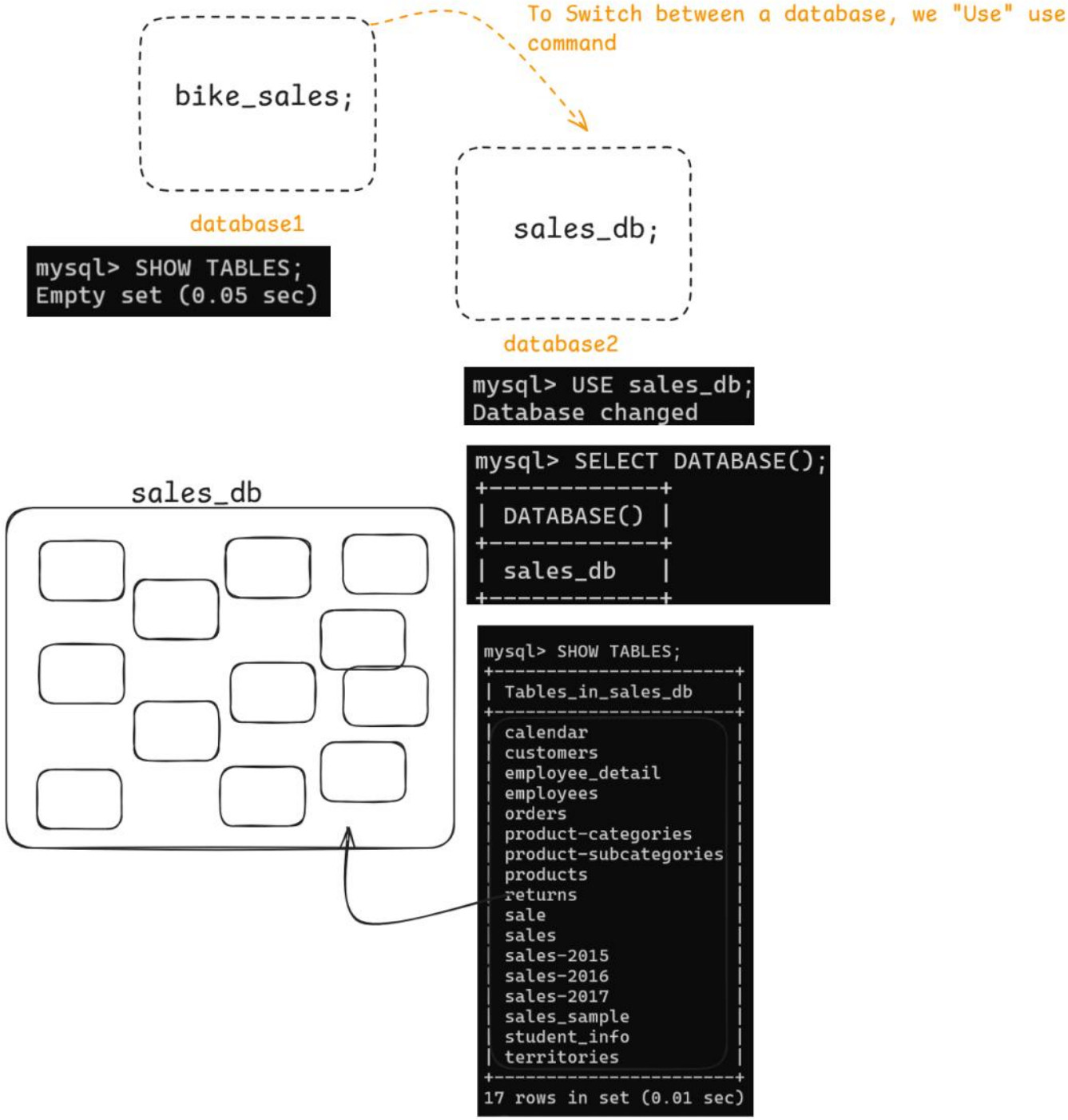



```
mysql> DROP DATABASE bike_sales;
Query OK, 0 rows affected (0.11 sec)

mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sakila             |
| sales_db           |
| sys                |
| world              |
+--------------------+
7 rows in set (0.04 sec)
```

`SELECT DATABASE();` - It shows what current database we are using

```
mysql> SELECT DATABASE();
+------------+
| DATABASE() |
+------------+
| NULL       |
+------------+
1 row in set (0.00 sec)
```

```
mysql> USE bike_sales;
Database changed
mysql> SELECT DATABASE();
+------------+
| DATABASE() |
+------------+
| bike_sales |
+------------+
1 row in set (0.00 sec)
```




```
mysql> SHOW TABLES;
Empty set (0.05 sec)
```

```
mysql> USE sales_db;
Database changed
```

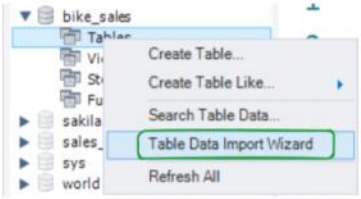
```
mysql> SELECT DATABASE();
+-------------+
| DATABASE()  |
+-------------+
| sales_db    |
+-------------+
```

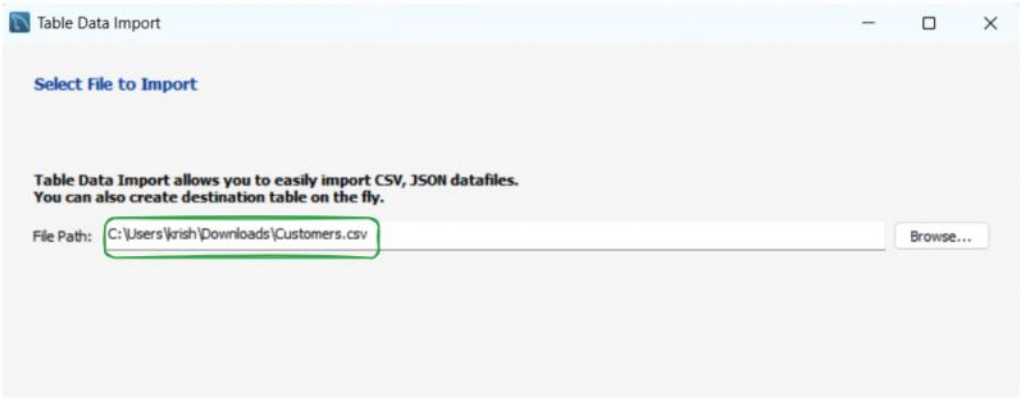
```
mysql> SHOW TABLES;
+----------------------+
| Tables_in_sales_db   |
+----------------------+
| calendar             |
| customers            |
| employee_detail      |
| employees            |
| orders               |
| product-categories   |
| product-subcategories|
| products             |
| returns              |
| sale                 |
| sales                |
| sales-2015           |
| sales-2016           |
| sales-2017           |
| sales_sample         |
| student_info         |
| territories          |
+----------------------+
17 rows in set (0.01 sec)
```

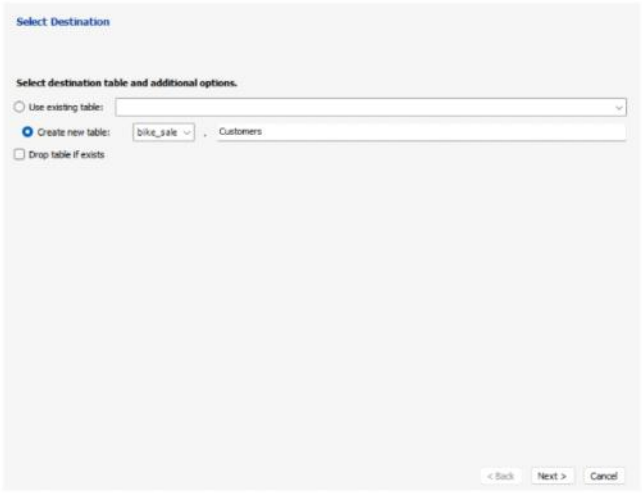
How we can Import Table in Database.

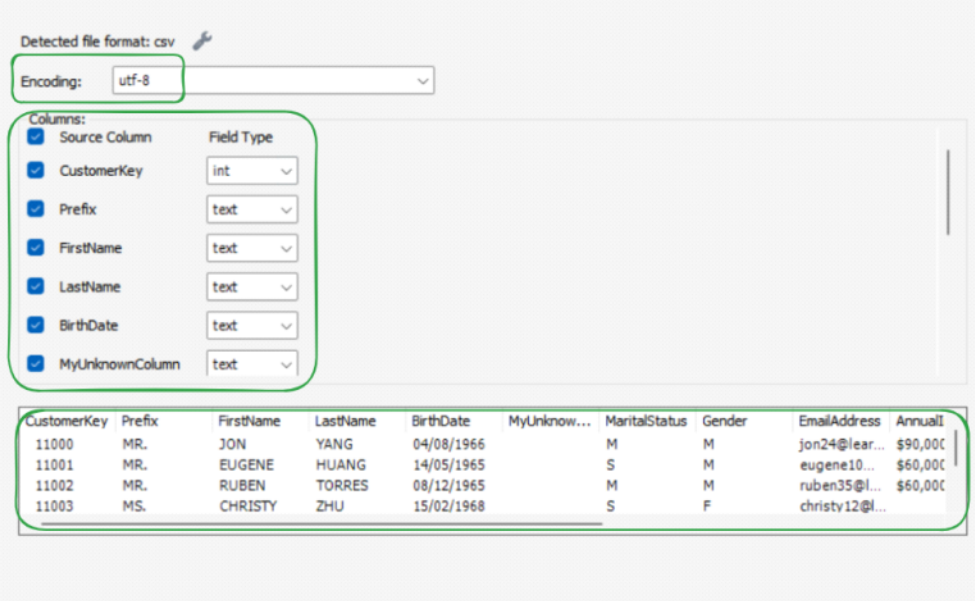
There is a table which already exist in .csv file, we just have to import it.

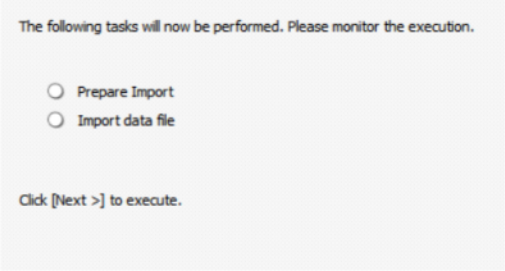
GUI → Using Table Data Import Wizard.

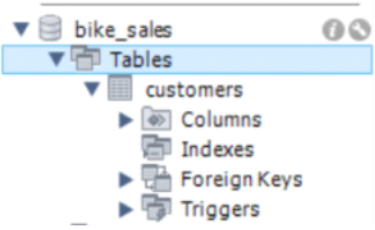







Detected file format: csv
Encoding: utf-8
Columns:
Source Column
Field Type
CustomerKey int
Prefix text
FirstName text
LastName text
BirthDate text
MyUnknownColumn text
CustomerKey Prefix FirstName LastName BirthDate MyUnknow... MaritalStatus Gender EmailAddress AnnualI
11000 MR. JON YANG 04/08/1966 M M jon24@lear... $90,00(
11001 MR. EUGENE HUANG 14/05/1965 S M eugene10... $60,00(
11002 MR. RUBEN TORRES 08/12/1965 M M ruben35@l... $60,00(
11003 MS. CHRISTY ZHU 15/02/1968 S F christy12@l...


The following tasks will now be performed. Please monitor the execution.
Prepare Import
Import data file
Click [Next >] to execute.


bike_sales
Tables
customers
Columns
Indexes
Foreign Keys
Triggers


File C:\Users\jkrish\Downloads\Customers.csv was imported in 20.523 s
Table bike_sales.customers was created
2062 records imported
< Back
Finish
Cancel

Use bike_sales;

```
mysql> USE bike_sales;
Database changed
mysql> SELECT DATABASE();
+------------+
| DATABASE() |
+------------+
| bike_sales |
+------------+
1 row in set (0.00 sec)
```

```
mysql> SHOW TABLES;
+----------------------+
| Tables_in_bike_sales |
+----------------------+
| customers            |
+----------------------+
1 row in set (0.01 sec)
```

DESCRIBE <Table_name>

DESC <Table_name>

```
mysql> DESC customers;
+-----------------+--------+------+-----+---------+-------+
| Field           | Type   | Null | Key | Default | Extra |
+-----------------+--------+------+-----+---------+-------+
| CustomerKey     | int    | YES  |     | NULL    |       |
| Prefix          | text   | YES  |     | NULL    |       |
| FirstName       | text   | YES  |     | NULL    |       |
| LastName        | text   | YES  |     | NULL    |       |
| BirthDate       | text   | YES  |     | NULL    |       |
| MyUnknownColumn | text   | YES  |     | NULL    |       |
| MaritalStatus   | text   | YES  |     | NULL    |       |
| Gender          | text   | YES  |     | NULL    |       |
| EmailAddress    | text   | YES  |     | NULL    |       |
| AnnualIncome    | text   | YES  |     | NULL    |       |
| TotalChildren   | int    | YES  |     | NULL    |       |
| EducationLevel  | text   | YES  |     | NULL    |       |
| Occupation      | text   | YES  |     | NULL    |       |
| HomeOwner       | text   | YES  |     | NULL    |       |
| Phone_number    | bigint | YES  |     | NULL    |       |
+-----------------+--------+------+-----+---------+-------+
15 rows in set (0.00 sec)
```

```sql
SHOW DATABASES;
CREATE DATABASE bike_sales;
-- DROP DATABASE bike_sales;
USE bike_sales;
SELECT DATABASE();
SHOW TABLES;
DESC customers;
```

Field - Column Header
Type - Data Type
NULL - YES [Optional]
- NO [Mandatory *]
Key - PRI[Primary Key]
- UNI [Unique]
- MUL [Foreign Key]
Default - NULL,
- But we can set Default as per the column.
Extra - Constraints
- CHECK
- Auto_increment() + 1 value to next person.

Let's Read out the table data that we import. [Customers]

```sql
8 • SELECT * FROM Customers;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MyUnknownColumn	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel	Occupation	HomeOwner	Phone_number
11000	MR.	JON	YANG	04/08/1966		M	M	jon24@learnsector.com	$90,000	2	Bachelors	Professional	Y	6697921661
11001	MR.	EUGENE	HUANG	14/05/1965		S	M	eugene10@learnsector.com	$60,000	3	Bachelors	Professional	N	8586376955
11002	MR.	RUBEN	TORRES	08/12/1965		M	M	ruben35@learnsector.com	$60,000	3	Bachelors	Professional	Y	6528852745
11003	MS.	CHRISTY	ZHU	15/02/1968		S	F	christy12@learnsector.com		0	Bachelors	Professional	N	3646568427
11004	MRS.	ELIZABETH	JOHNSON	08/08/1968		S	F	elizabeth5@learnsector.com	$80,000	5	Bachelors	Professional	Y	7132265883

Customers 4 | Read Only