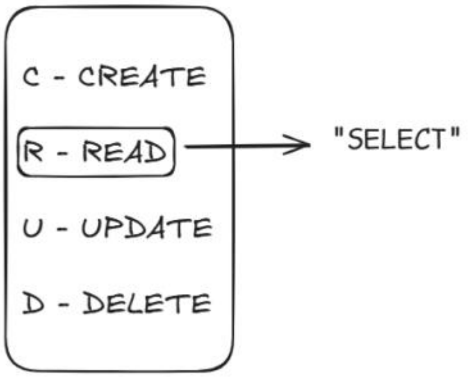
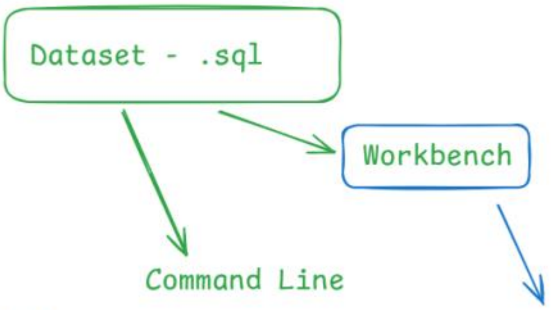
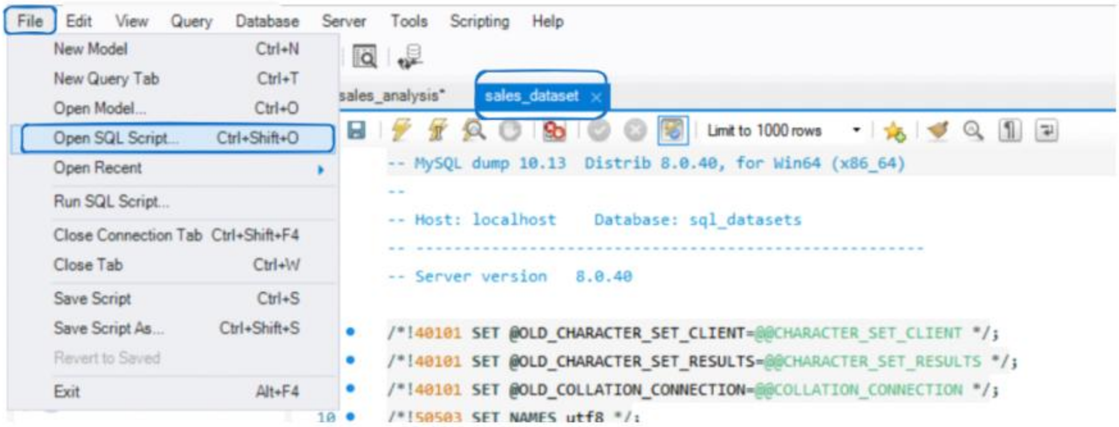
CN-Lec5-CRUD Operations

CRUD Operations



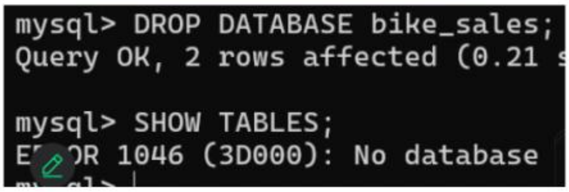




```
-- MySQL dump 10.13  Distrib 8.0.40, for Win64 (x86_64)
--
-- Host: localhost    Database: sql_datasets
-- ------------------------------------------------------
-- Server version	8.0.40

/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!50503 SET NAMES utf8 */;
```

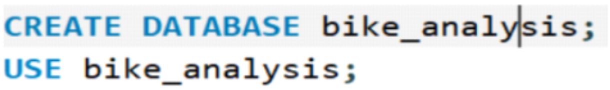
Steps -

DROP The bikes_sales database.

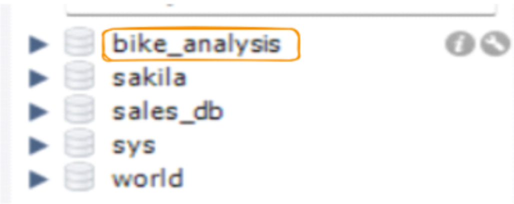


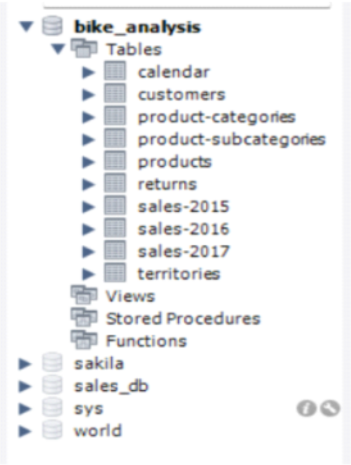
```
mysql> DROP DATABASE bike_sales;
Query OK, 2 rows affected (0.21 s

mysql> SHOW TABLES;
ERROR 1046 (3D000): No database
mysql>
```

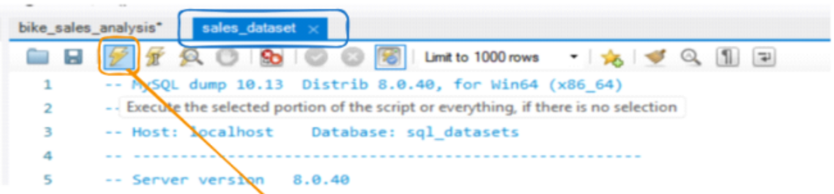
Create the database again - to import all table at once.



```
CREATE DATABASE bike_analysis;
USE bike_analysis;
```





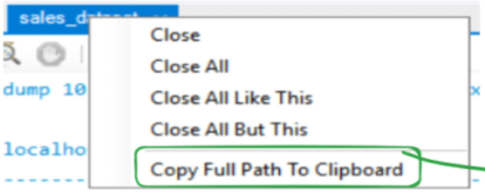


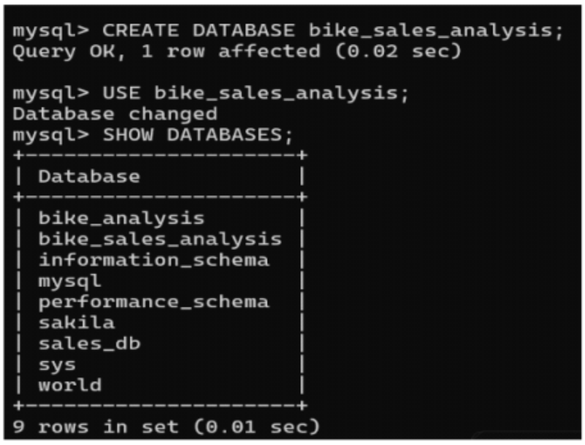
bike_sales_analysis*
sales_dataset
Limit to 1000 rows
Execute the selected portion of the script or everything, if there is no selection

```
-- MySQL dump 10.13  Distrib 8.0.40, for Win64 (x86_64)
--
-- Host: localhost    Database: sql_datasets
-- ------------------------------------------------------
-- Server version	8.0.40
```

Run the .sql file to load all the tables and dataset.

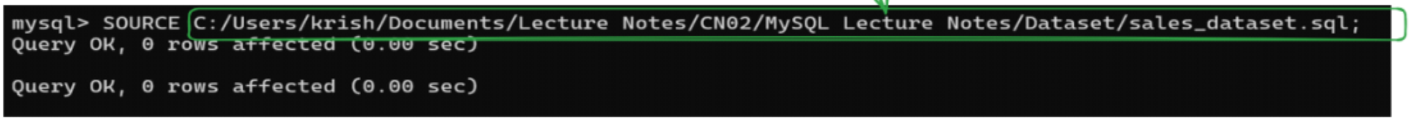
Command Line



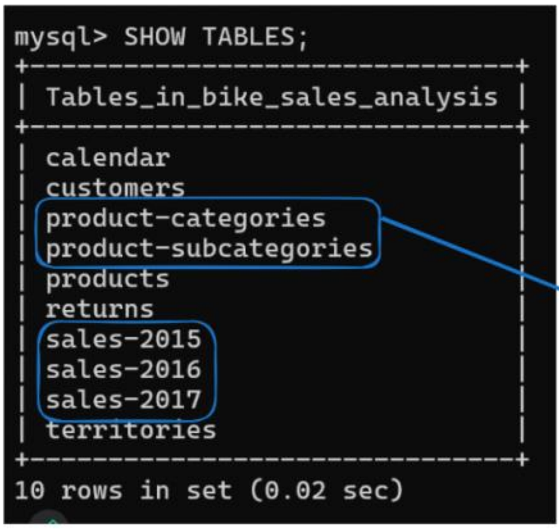


```
mysql> CREATE DATABASE bike_sales_analysis;
Query OK, 1 row affected (0.02 sec)

mysql> USE bike_sales_analysis;
Database changed
mysql> SHOW DATABASES;
+---------------------+
| Database            |
+---------------------+
| bike_analysis       |
| bike_sales_analysis |
| information_schema  |
| mysql               |
| performance_schema  |
| sakila              |
| sales_db            |
| sys                 |
| world               |
+---------------------+
9 rows in set (0.01 sec)
```

Change the "\" to "/"



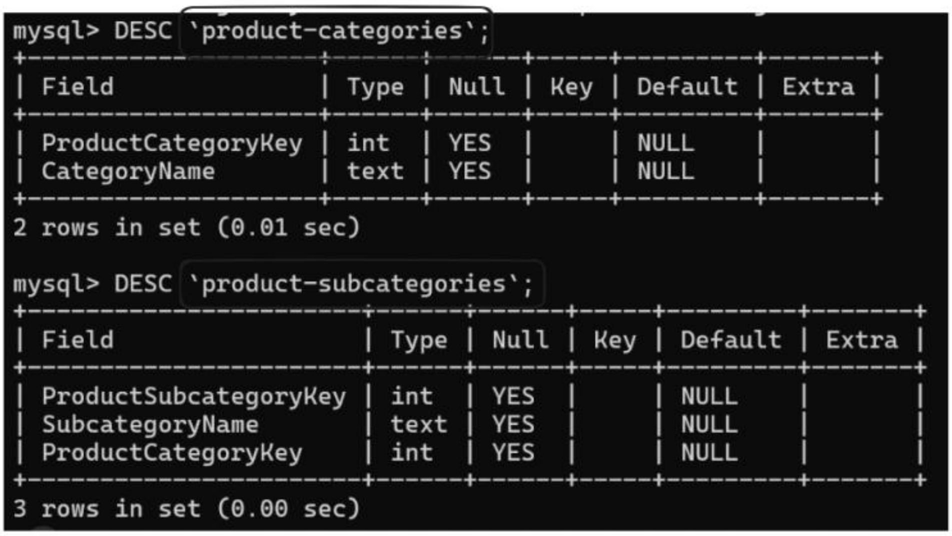
```
mysql> SOURCE C:/Users/krish/Documents/Lecture Notes/CN02/MySQL Lecture Notes/Dataset/sales_dataset.sql;
Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)
```



```
mysql> SHOW TABLES;
+-------------------------------+
| Tables_in_bike_sales_analysis |
+-------------------------------+
| calendar                      |
| customers                     |
| product-categories            |
| product-subcategories         |
| products                      |
| returns                       |
| sales-2015                    |
| sales-2016                    |
| sales-2017                    |
| territories                   |
+-------------------------------+
10 rows in set (0.02 sec)
```

wrap it with backtick ``

`product-categories`;

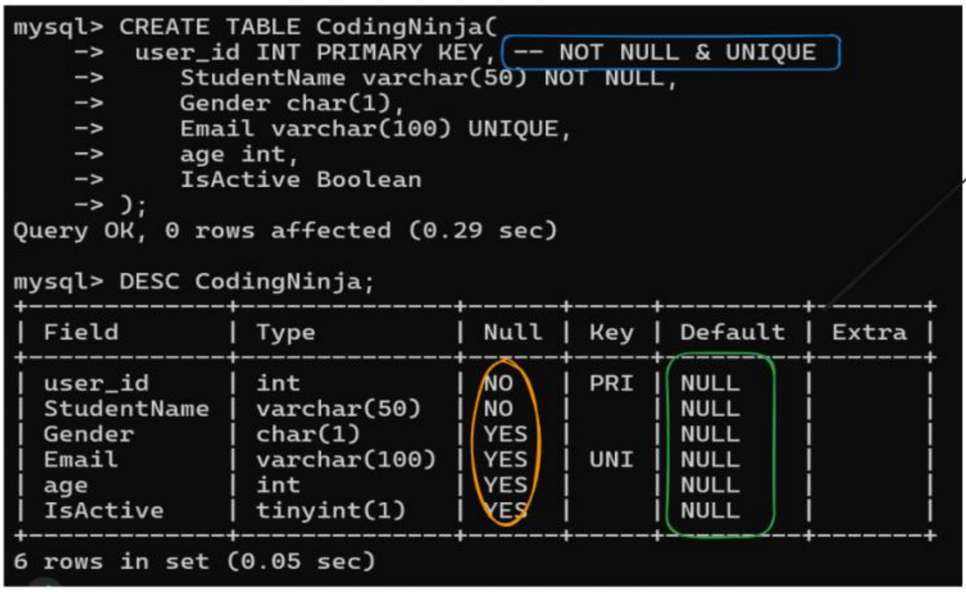


```
mysql> DESC `product-categories`;
+--------------------+------+------+-----+---------+-------+
| Field              | Type | Null | Key | Default | Extra |
+--------------------+------+------+-----+---------+-------+
| ProductCategoryKey | int  | YES  |     | NULL    |       |
| CategoryName       | text | YES  |     | NULL    |       |
+--------------------+------+------+-----+---------+-------+
2 rows in set (0.01 sec)

mysql> DESC `product-subcategories`;
+-----------------------+------+------+-----+---------+-------+
| Field                 | Type | Null | Key | Default | Extra |
+-----------------------+------+------+-----+---------+-------+
| ProductSubcategoryKey | int  | YES  |     | NULL    |       |
| SubcategoryName       | text | YES  |     | NULL    |       |
| ProductCategoryKey    | int  | YES  |     | NULL    |       |
+-----------------------+------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

CREATE A Table

SYNTAX:

```
CREATE TABLE <table_name>(
    column_name data_type [constraint],
    column_name data_type [constraint],
    column_name data_type [constraint]
);
```



```
mysql> CREATE TABLE CodingNinja(
    ->  user_id INT PRIMARY KEY, -- NOT NULL & UNIQUE
    ->      StudentName varchar(50) NOT NULL,
    ->      Gender char(1),
    ->      Email varchar(100) UNIQUE,
    ->      age int,
    ->      IsActive Boolean
    -> );
Query OK, 0 rows affected (0.29 sec)

mysql> DESC CodingNinja;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| user_id     | int          | NO   | PRI | NULL    |       |
| StudentName | varchar(50)  | NO   |     | NULL    |       |
| Gender      | char(1)      | YES  |     | NULL    |       |
| Email       | varchar(100) | YES  | UNI | NULL    |       |
| age         | int          | YES  |     | NULL    |       |
| IsActive    | tinyint(1)   | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.05 sec)
```

Structure of a Table

NO - NOT NULL [Mandatory]
YES - NULL [Optional]

Default - If you skip that value - Default would be replacing it.

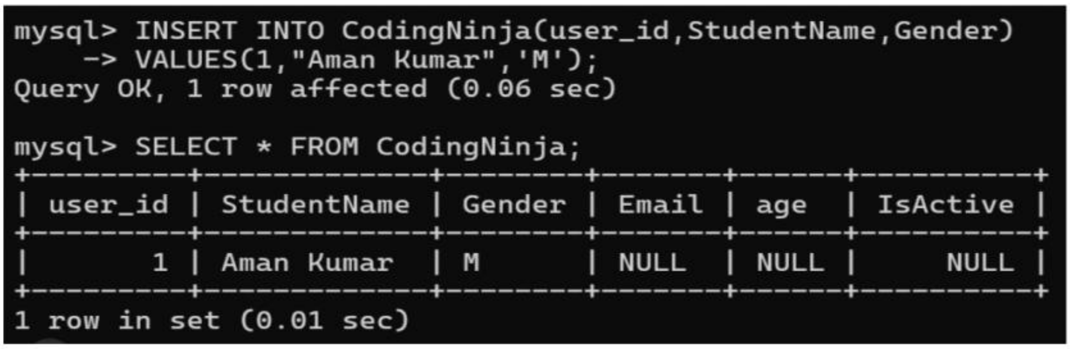
INSERT Command

SYNTAX :

```
INSERT INTO <table_name>(para1,para2,para3)
VALUES(arg1,arg2,arg3)
```

Parameter - Column Name

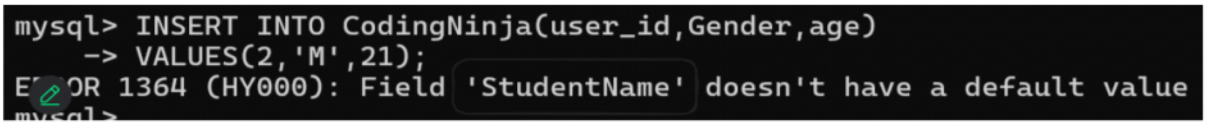
Arguments: Each column needs to be filed
with its corresponding arguments



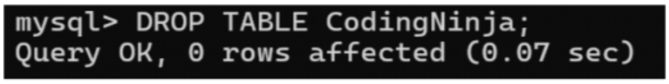
```
mysql> INSERT INTO CodingNinja(user_id,StudentName,Gender)
    -> VALUES(1,"Aman Kumar",'M');
Query OK, 1 row affected (0.06 sec)

mysql> SELECT * FROM CodingNinja;
+---------+-------------+--------+-------+------+----------+
| user_id | StudentName | Gender | Email | age  | IsActive |
+---------+-------------+--------+-------+------+----------+
|       1 | Aman Kumar  | M      | NULL  | NULL |     NULL |
+---------+-------------+--------+-------+------+----------+
1 row in set (0.01 sec)
```

```
INSERT INTO CodingNinja(user_id,StudentName,Gender)
VALUES(1,"Aman Kumar",'M');
```

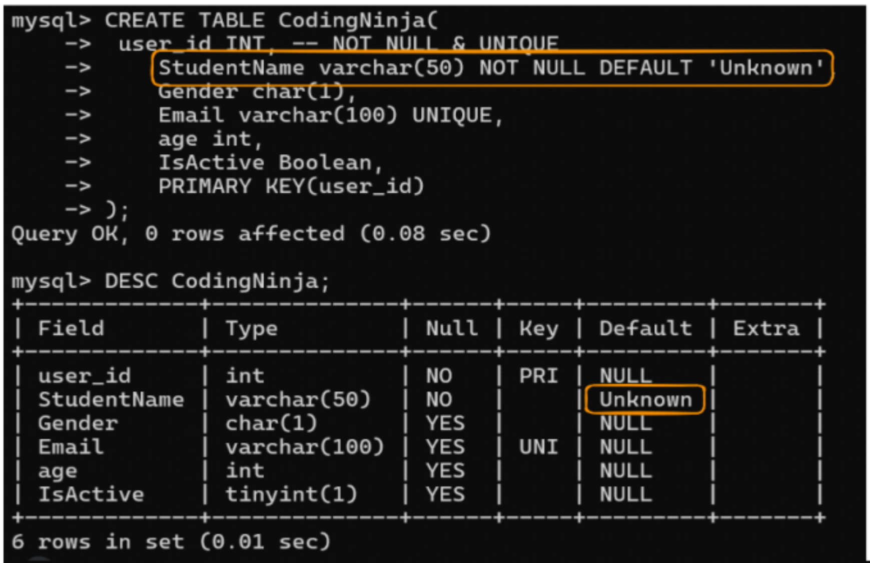
What happens if we skip NOT NULL Column?



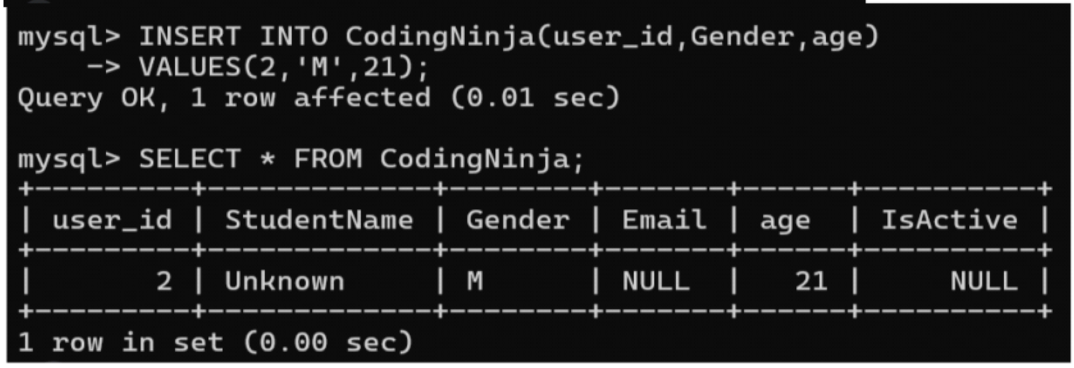
```
mysql> INSERT INTO CodingNinja(user_id,Gender,age)
    -> VALUES(2,'M',21);
ERROR 1364 (HY000): Field 'StudentName' doesn't have a default value
mysql>
```



```
mysql> DROP TABLE CodingNinja;
Query OK, 0 rows affected (0.07 sec)
```



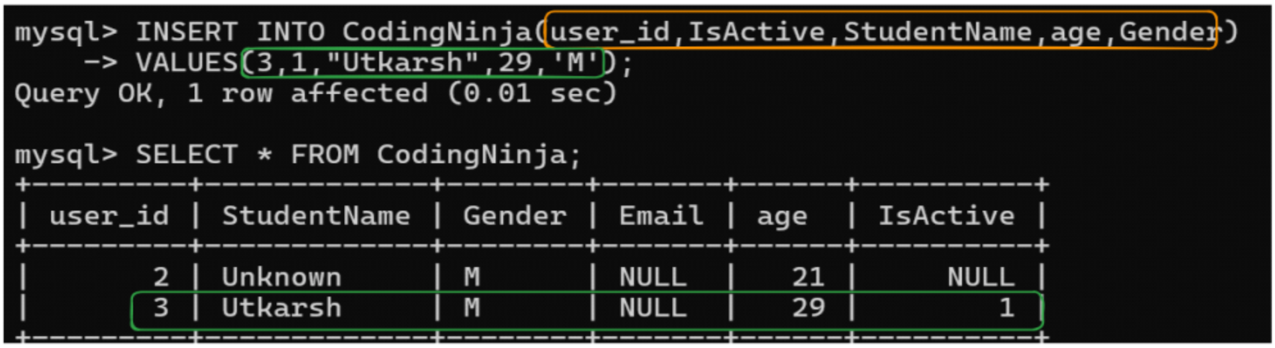
```
mysql> CREATE TABLE CodingNinja(
    ->   user_id INT, -- NOT NULL & UNIQUE
    ->     StudentName varchar(50) NOT NULL DEFAULT 'Unknown',
    ->     Gender char(1),
    ->     Email varchar(100) UNIQUE,
    ->     age int,
    ->     IsActive Boolean,
    ->     PRIMARY KEY(user_id)
    -> );
Query OK, 0 rows affected (0.08 sec)

mysql> DESC CodingNinja;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| user_id     | int          | NO   | PRI | NULL    |       |
| StudentName | varchar(50)  | NO   |     | Unknown |       |
| Gender      | char(1)      | YES  |     | NULL    |       |
| Email       | varchar(100) | YES  | UNI | NULL    |       |
| age         | int          | YES  |     | NULL    |       |
| IsActive    | tinyint(1)   | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.01 sec)
```



```
mysql> INSERT INTO CodingNinja(user_id,Gender,age)
    -> VALUES(2,'M',21);
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM CodingNinja;
+---------+-------------+--------+-------+------+----------+
| user_id | StudentName | Gender | Email | age  | IsActive |
+---------+-------------+--------+-------+------+----------+
|       2 | Unknown     | M      | NULL  |   21 |     NULL |
+---------+-------------+--------+-------+------+----------+
1 row in set (0.00 sec)
```

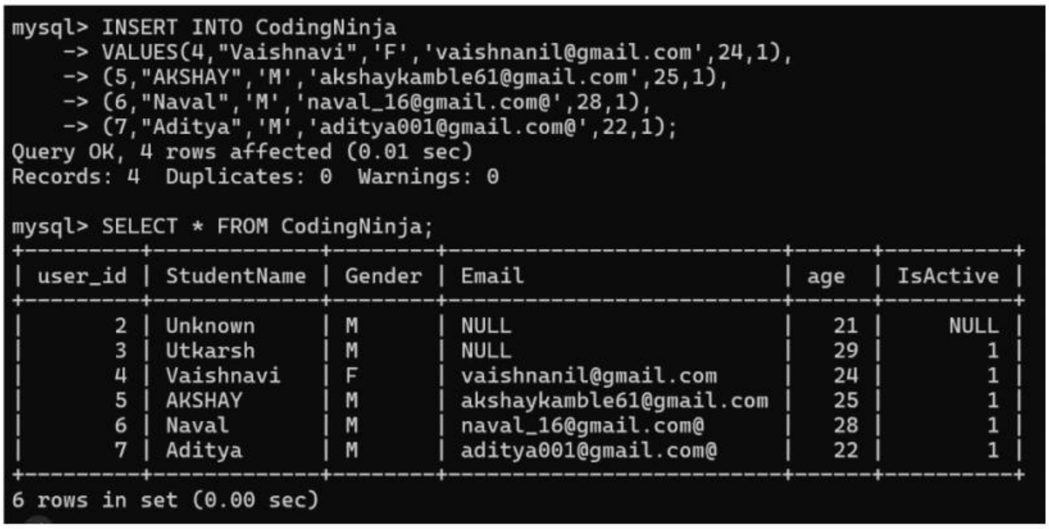
What happen when we change the order of parameter?

argument should be corresponding to the parameter



```
mysql> INSERT INTO CodingNinja(user_id,IsActive,StudentName,age,Gender)
    -> VALUES(3,1,"Utkarsh",29,'M');
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM CodingNinja;
+---------+-------------+--------+-------+------+----------+
| user_id | StudentName | Gender | Email | age  | IsActive |
+---------+-------------+--------+-------+------+----------+
|       2 | Unknown     | M      | NULL  |   21 |     NULL |
|       3 | Utkarsh     | M      | NULL  |   29 |        1 |
+---------+-------------+--------+-------+------+----------+
```

Multi Line Insertion

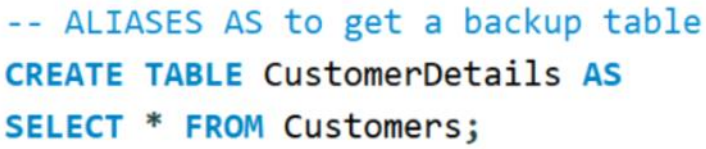


```
mysql> INSERT INTO CodingNinja
    -> VALUES(4,"Vaishnavi",'F','vaishnanil@gmail.com',24,1),
    -> (5,"AKSHAY",'M','akshaykamble61@gmail.com',25,1),
    -> (6,"Naval",'M','naval_16@gmail.com@',28,1),
    -> (7,"Aditya",'M','aditya001@gmail.com@',22,1);
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM CodingNinja;
+---------+-------------+--------+--------------------------+-----+----------+
| user_id | StudentName | Gender | Email                    | age | IsActive |
+---------+-------------+--------+--------------------------+-----+----------+
|       2 | Unknown     | M      | NULL                     |  21 |     NULL |
|       3 | Utkarsh     | M      | NULL                     |  29 |        1 |
|       4 | Vaishnavi   | F      | vaishnanil@gmail.com     |  24 |        1 |
|       5 | AKSHAY      | M      | akshaykamble61@gmail.com |  25 |        1 |
|       6 | Naval       | M      | naval_16@gmail.com@      |  28 |        1 |
|       7 | Aditya      | M      | aditya001@gmail.com@     |  22 |        1 |
+---------+-------------+--------+--------------------------+-----+----------+
6 rows in set (0.00 sec)
```

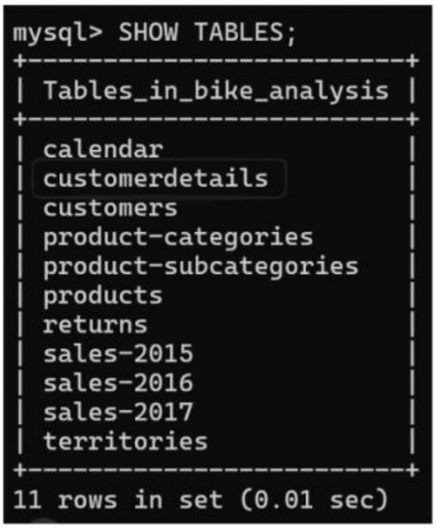
Clone the table

Make the duplicate table to do some changes without impacting the original Table.

"AS" Aliases



```
-- ALIASES AS to get a backup table
CREATE TABLE CustomerDetails AS
SELECT * FROM Customers;
```

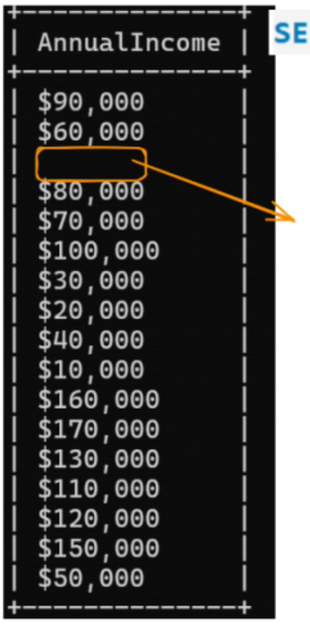


```
mysql> SHOW TABLES;
+-------------------------+
| Tables_in_bike_analysis |
+-------------------------+
| calendar                |
| customerdetails         |
| customers               |
| product-categories      |
| product-subcategories   |
| products                |
| returns                 |
| sales-2015              |
| sales-2016              |
| sales-2017              |
| territories             |
+-------------------------+
11 rows in set (0.01 sec)
```

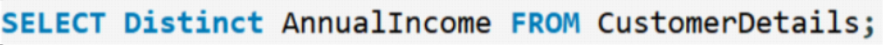
UPDATE Command

SYNTAX :

```
UPDATE <tableName>
SET ColumnName = "specific value"
WHERE <specific location>;
```

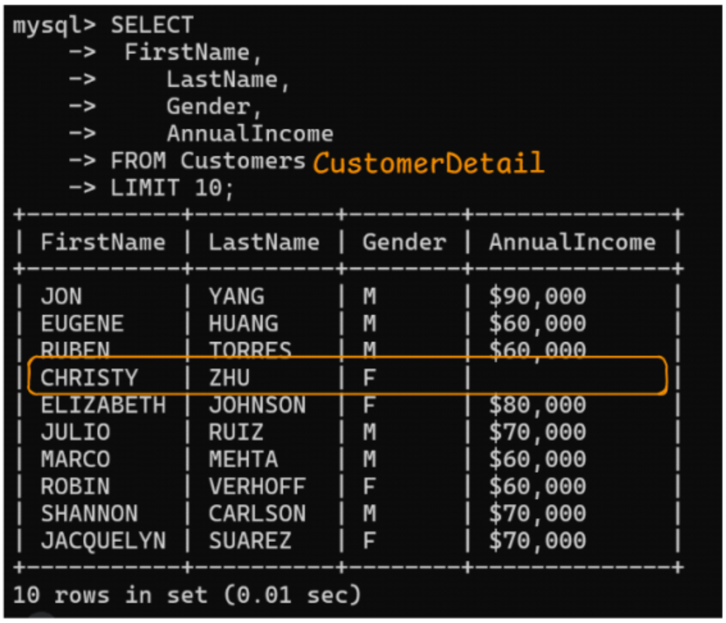


```
+---------------+
| AnnualIncome |
+---------------+
| $90,000      |
| $60,000      |
|              |
| $80,000      |
| $70,000      |
| $100,000     |
| $30,000      |
| $20,000      |
| $40,000      |
| $10,000      |
| $160,000     |
| $170,000     |
| $130,000     |
| $110,000     |
| $120,000     |
| $150,000     |
| $50,000      |
+---------------+
```

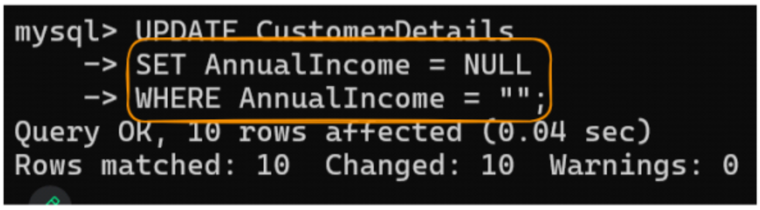


```
SELECT Distinct AnnualIncome FROM CustomerDetails;
```

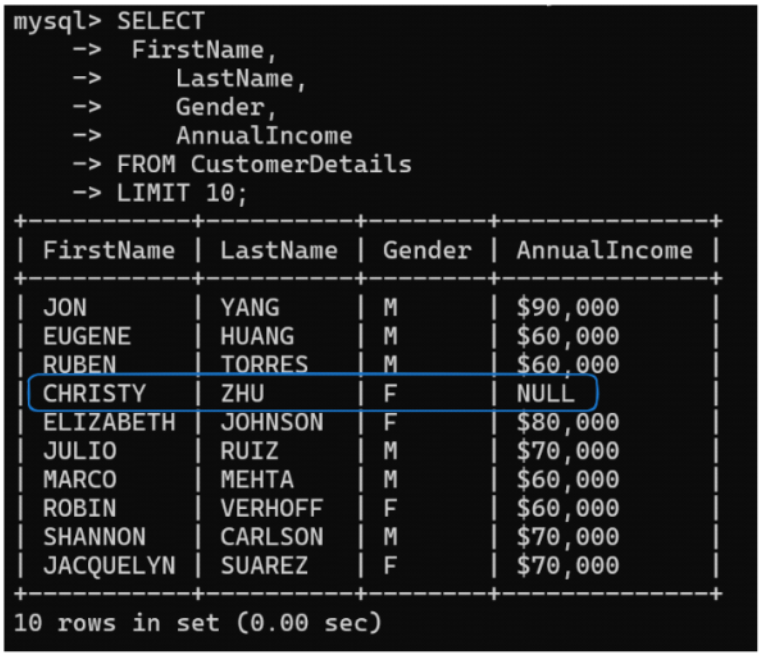
Missing Value -> NULL



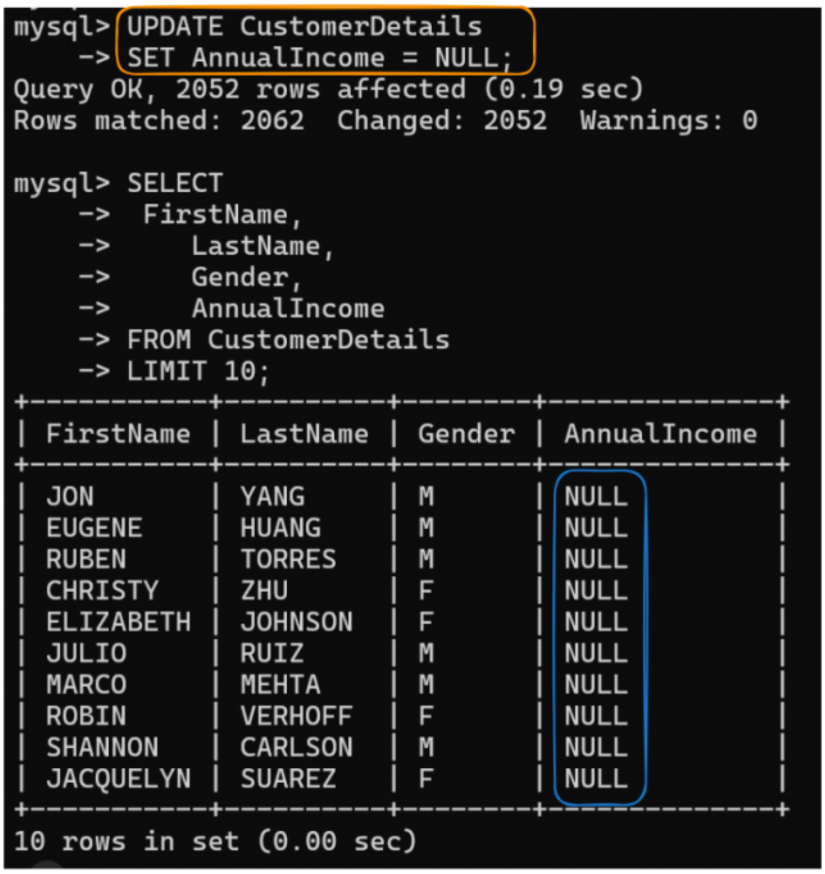
```
mysql> SELECT
    ->  FirstName,
    ->      LastName,
    ->      Gender,
    ->      AnnualIncome
    -> FROM Customers CustomerDetail
    -> LIMIT 10;
+-----------+----------+--------+--------------+
| FirstName | LastName | Gender | AnnualIncome |
+-----------+----------+--------+--------------+
| JON       | YANG     | M      | $90,000      |
| EUGENE    | HUANG    | M      | $60,000      |
| RUBEN     | TORRES   | M      | $60,000      |
| CHRISTY   | ZHU      | F      |              |
| ELIZABETH | JOHNSON  | F      | $80,000      |
| JULIO     | RUIZ     | M      | $70,000      |
| MARCO     | MEHTA    | M      | $60,000      |
| ROBIN     | VERHOFF  | F      | $60,000      |
| SHANNON   | CARLSON  | M      | $70,000      |
| JACQUELYN | SUAREZ   | F      | $70,000      |
+-----------+----------+--------+--------------+
10 rows in set (0.01 sec)
```



```
mysql> UPDATE CustomerDetails
    -> SET AnnualIncome = NULL
    -> WHERE AnnualIncome = "";
Query OK, 10 rows affected (0.04 sec)
Rows matched: 10  Changed: 10  Warnings: 0
```



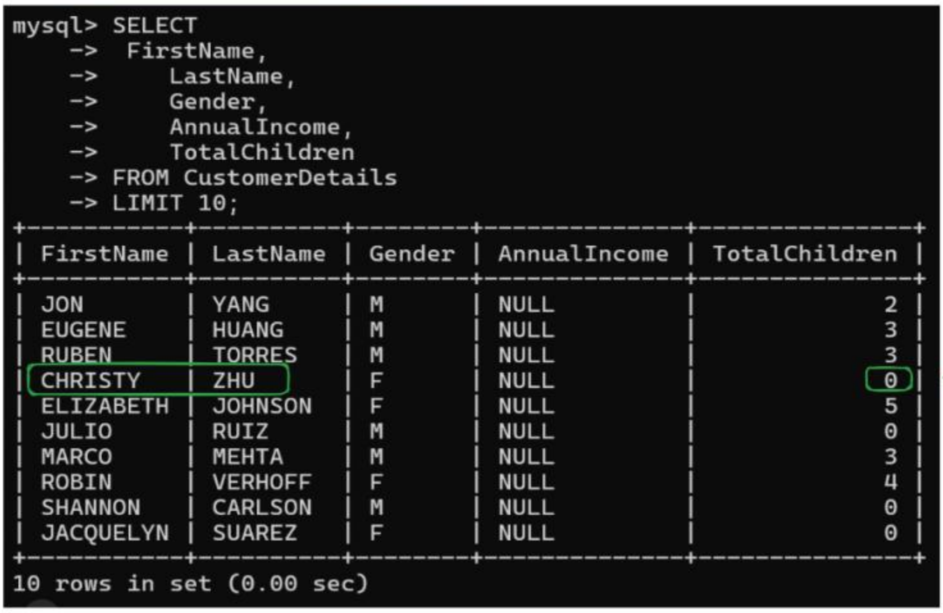
```
mysql> SELECT
    ->  FirstName,
    ->      LastName,
    ->      Gender,
    ->      AnnualIncome
    -> FROM CustomerDetails
    -> LIMIT 10;
+-----------+----------+--------+--------------+
| FirstName | LastName | Gender | AnnualIncome |
+-----------+----------+--------+--------------+
| JON       | YANG     | M      | $90,000      |
| EUGENE    | HUANG    | M      | $60,000      |
| RUBEN     | TORRES   | M      | $60,000      |
| CHRISTY   | ZHU      | F      | NULL         |
| ELIZABETH | JOHNSON  | F      | $80,000      |
| JULIO     | RUIZ     | M      | $70,000      |
| MARCO     | MEHTA    | M      | $60,000      |
| ROBIN     | VERHOFF  | F      | $60,000      |
| SHANNON   | CARLSON  | M      | $70,000      |
| JACQUELYN | SUAREZ   | F      | $70,000      |
+-----------+----------+--------+--------------+
10 rows in set (0.00 sec)
```



```
mysql> UPDATE CustomerDetails
    -> SET AnnualIncome = NULL;
Query OK, 2052 rows affected (0.19 sec)
Rows matched: 2062  Changed: 2052  Warnings: 0

mysql> SELECT
    ->  FirstName,
    ->      LastName,
    ->      Gender,
    ->      AnnualIncome
    -> FROM CustomerDetails
    -> LIMIT 10;
+-----------+----------+--------+--------------+
| FirstName | LastName | Gender | AnnualIncome |
+-----------+----------+--------+--------------+
| JON       | YANG     | M      | NULL         |
| EUGENE    | HUANG    | M      | NULL         |
| RUBEN     | TORRES   | M      | NULL         |
| CHRISTY   | ZHU      | F      | NULL         |
| ELIZABETH | JOHNSON  | F      | NULL         |
| JULIO     | RUIZ     | M      | NULL         |
| MARCO     | MEHTA    | M      | NULL         |
| ROBIN     | VERHOFF  | F      | NULL         |
| SHANNON   | CARLSON  | M      | NULL         |
| JACQUELYN | SUAREZ   | F      | NULL         |
+-----------+----------+--------+--------------+
10 rows in set (0.00 sec)
```

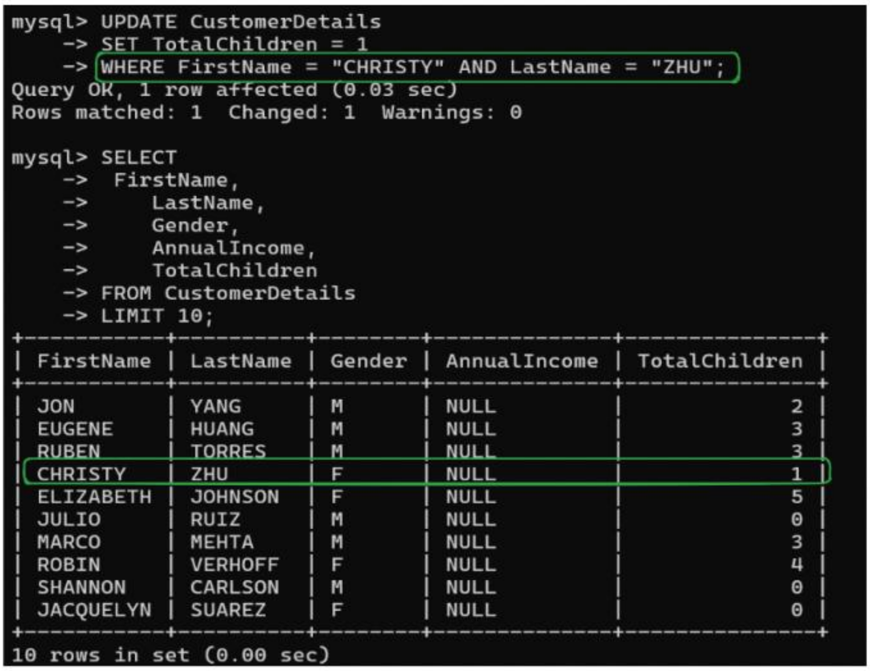
What happen when there is no where clause in update command?

Can we update numerical Column?



```
mysql> SELECT
    ->  FirstName,
    ->     LastName,
    ->     Gender,
    ->     AnnualIncome,
    ->     TotalChildren
    -> FROM CustomerDetails
    -> LIMIT 10;
+-----------+----------+--------+--------------+---------------+
| FirstName | LastName | Gender | AnnualIncome | TotalChildren |
+-----------+----------+--------+--------------+---------------+
| JON       | YANG     | M      | NULL         |             2 |
| EUGENE    | HUANG    | M      | NULL         |             3 |
| RUBEN     | TORRES   | M      | NULL         |             3 |
| CHRISTY   | ZHU      | F      | NULL         |             0 |
| ELIZABETH | JOHNSON  | F      | NULL         |             5 |
| JULIO     | RUIZ     | M      | NULL         |             0 |
| MARCO     | MEHTA    | M      | NULL         |             3 |
| ROBIN     | VERHOFF  | F      | NULL         |             4 |
| SHANNON   | CARLSON  | M      | NULL         |             0 |
| JACQUELYN | SUAREZ   | F      | NULL         |             0 |
+-----------+----------+--------+--------------+---------------+
10 rows in set (0.00 sec)
```

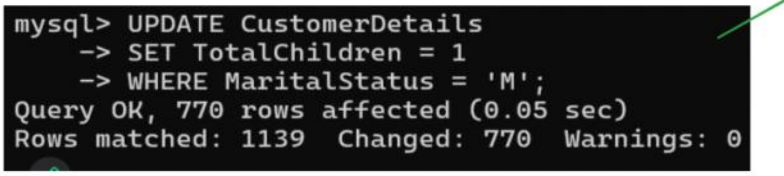
1



```
mysql> UPDATE CustomerDetails
    -> SET TotalChildren = 1
    -> WHERE FirstName = "CHRISTY" AND LastName = "ZHU";
Query OK, 1 row affected (0.03 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT
    ->  FirstName,
    ->     LastName,
    ->     Gender,
    ->     AnnualIncome,
    ->     TotalChildren
    -> FROM CustomerDetails
    -> LIMIT 10;
+-----------+----------+--------+--------------+---------------+
| FirstName | LastName | Gender | AnnualIncome | TotalChildren |
+-----------+----------+--------+--------------+---------------+
| JON       | YANG     | M      | NULL         |             2 |
| EUGENE    | HUANG    | M      | NULL         |             3 |
| RUBEN     | TORRES   | M      | NULL         |             3 |
| CHRISTY   | ZHU      | F      | NULL         |             1 |
| ELIZABETH | JOHNSON  | F      | NULL         |             5 |
| JULIO     | RUIZ     | M      | NULL         |             0 |
| MARCO     | MEHTA    | M      | NULL         |             3 |
| ROBIN     | VERHOFF  | F      | NULL         |             4 |
| SHANNON   | CARLSON  | M      | NULL         |             0 |
| JACQUELYN | SUAREZ   | F      | NULL         |             0 |
+-----------+----------+--------+--------------+---------------+
10 rows in set (0.00 sec)
```

"" -> Empty Cell

Update the total children = 1
where maritalStatus - 'M'



```
mysql> UPDATE CustomerDetails
    -> SET TotalChildren = 1
    -> WHERE MaritalStatus = 'M';
Query OK, 770 rows affected (0.05 sec)
Rows matched: 1139  Changed: 770  Warnings: 0
```