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1. Introduction

1.1 Database

A database is a collection of information or data organized in a manner that allows the data to be retrieved whenever needed. Databases are stored in the computer in the form of tables. A database system is an integrated collection of related files, along with details of the interpretation of the data contained therein. Basically, database system is nothing more than a computer-based record keeping system i.e., a system whose overall purpose is to record and maintain information/data. (Gunjal, December 2003).

The databases are organized with the use of Database Management System (DBMS). The data in the database can be created, read, updated and deleted with the help of the DBMS. DBMS is efficient and convenient to use for the user or the person handling the databases. It provides the interface between the data file on disk and the program requests processing.

1.2 Description of Organization

The organization that I have prepared is of an online shopping store. Online shopping can be said as the process of buying goods and products about anything online through the internet. Online shopping helps saves a lot of time. We can find different variety of products and items in online shopping. Nowadays, most works can be done online by sitting in one's home without having to go anywhere. So, many people have started using websites or applications for shopping online.

The organization of my choice is **Takuton Online Shop**. Therefore, the database of the organization is **TakutonOnline**. The database **TakutonOnline** consists of five entities i.e., **Customer**, **Order**, **Employee**, **Item** and **Delivery**. The concept for the database is quite simple. A customer makes an order. The order is recorded by the employees. The order consists of certain items and finally the order is delivered to the customer.

A customer can make many orders in online shopping but one order belongs to a specific customer. Therefore, a customer and order have a one-to-many relationship. Also, order has many items in it but an item belongs to one order. So, order and item have a one-to-many relationship. Similarly, employee can take many orders but one order belongs to one specific employee. Thus, employee has a one-to-many relationship with orders. Lastly, there are many items to be delivered in one delivery but one item can't be delivered twice. Thus, item and delivery have one-to-many relationship.

All the entities used have different attributes. The Customer entity contains four attributes. The Customer ID is the primary key that is auto incremented and stores INT datatype value. Full name, Phone number and Address stores String datatype values. Phone numbers of each customer is distinct so unique constraint is given.

Order entity contains six attributes. Order ID is the primary key storing INT datatype value. Order date stores the date so DATE datatype value is used. Customer ID, Employee ID, Item ID and Delivery ID are foreign keys that stores INT datatype values. The values are referenced from their respective entities.

Employee entity contains three attributes. Employee ID is the primary key that stores INT datatype value. Full name and phone number store string datatype values. Similarly, phone numbers cannot be the same for each person so unique constraint is given.

Item entity contains three attributes. Item ID is the primary key that stores INT datatype value. Item price stores the prices so INT datatype value is used. Item name stores string datatype values.

Delivery entity contains three attributes. Delivery ID is the primary key that stores INT datatype value. Confirmation stores string type values and Delivery date stores DATE datatype value.

1.3 Goals and Objectives

The main goal of this report is to make a database is to run the organization effectively and efficiently in a proper manner. The database stores the data inputted in different tables. A database helps duplicate data to be written in the same entry. People from different fields can access the files and input the data.

Objectives of a database:

- The database makes access to the data easy for the user.
- Database protects the data from physical damages and unauthorized access. With proper backup, the security of the database can be further modified.
- The workload of the employees is decreased.
- Prevents human errors as the proper insertion of queries or commands are required for the data to be inputted.

2. Database Model

2.1 Business Rules

The organization **Takuton Online Shop** is an online store. It imports products and items from different shops or exporters from different areas and sells it online to the customers registered in their website. The customers place their order of the specific item they need. The employees take record of the orders placed by the customers and assign the items of the order to their respective delivery id number. Finally, the order placed by the customers are delivered to their houses.

2.2 Entity Relational Model

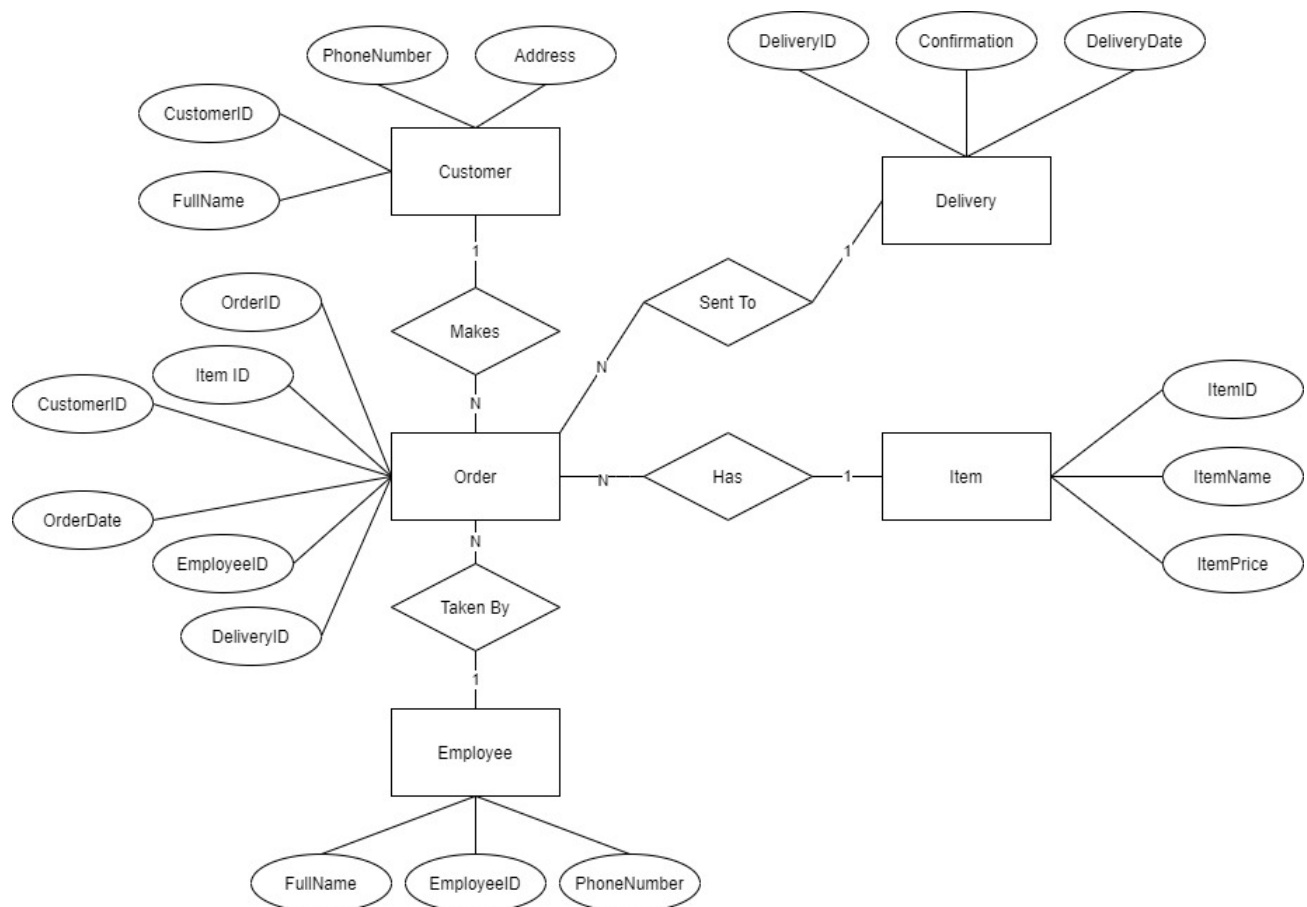


Figure 1 ERD for Takuton Online

2.3 Relational Diagram

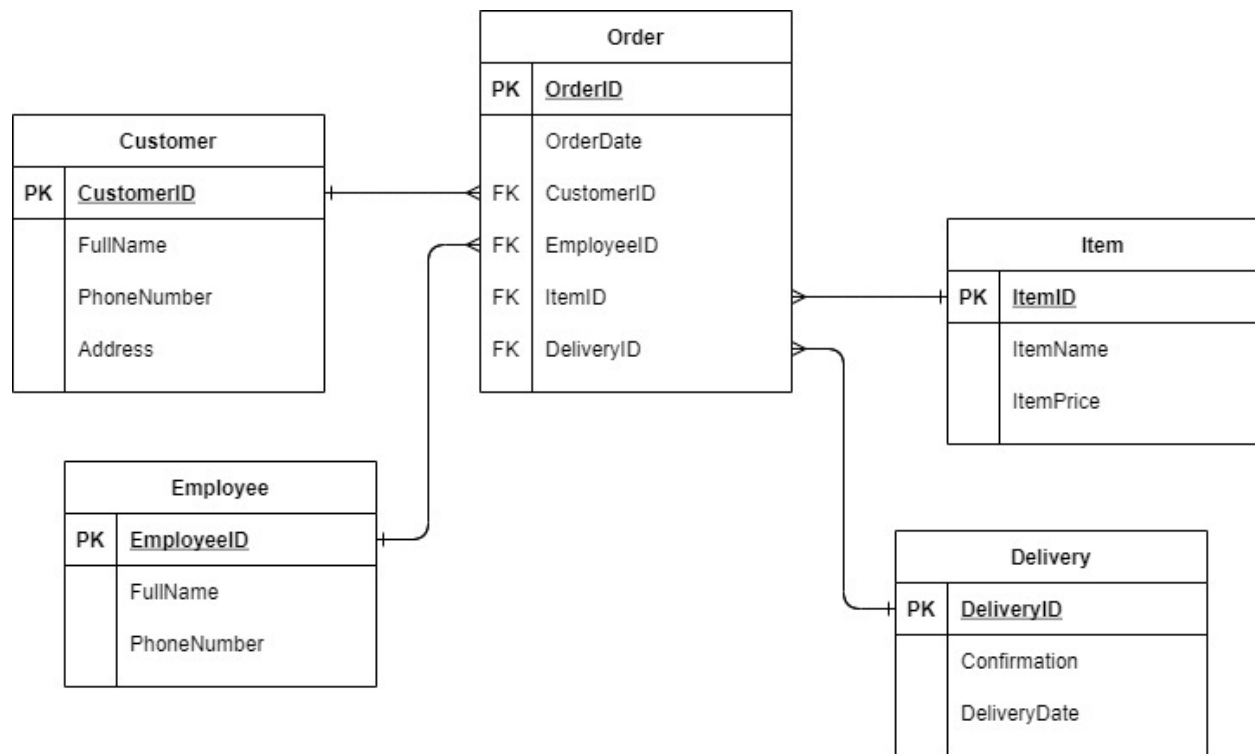


Figure 2 Relational Diagram of Takuton Online

2.4 Creation and Insertion of Database and data

- TakutonOnline

```

MariaDB [(none)]> CREATE DATABASE TakutonOnline;
Query OK, 1 row affected (0.001 sec)

MariaDB [(none)]> USE TakutonOnline;
Database changed
MariaDB [TakutonOnline]>
  
```

Figure 3 Creation of New Database **TakutonOnline**

- Customer
 - Creating Customer table

```
MariaDB [TakutonOnline]> CREATE TABLE Customer(
  -> CustomerID INT PRIMARY KEY AUTO_INCREMENT,
  -> FullName VARCHAR(255) NOT NULL,
  -> PhoneNumber VARCHAR(255) UNIQUE NOT NULL,
  -> Address VARCHAR(255) NOT NULL);
Query OK, 0 rows affected (0.027 sec)
```

Figure 4 Creating Customer table

- Describing Customer table

```
MariaDB [TakutonOnline]> DESCRIBE Customer;
```

Field	Type	Null	Key	Default	Extra
CustomerID	int(11)	NO	PRI	NULL	auto_increment
FullName	varchar(255)	NO		NULL	
PhoneNumber	varchar(255)	NO	UNI	NULL	
Address	varchar(255)	NO		NULL	

```
4 rows in set (0.008 sec)
```

Figure 5 Describing Customer table

- Inserting values into Customer

```
MariaDB [TakutonOnline]> INSERT INTO Customer (FullName, PhoneNumber, Address) VALUES
  -> ("Niwahang Angbuhang", "9818284883", "Kathmandu"),
  -> ("Sandesh Shrestha", "9823088370", "Lalitpur"),
  -> ("Bikesh Shrestha", "9841859741", "Bhaktapur"),
  -> ("Sikum Hang Angdembe", "9818585774", "Panchthar"),
  -> ("Bibek Ale Magar", "9823056972", "Sindhuli"),
  -> ("Niraj Sigdel", "9841256741", "Sindhupalchok"),
  -> ("Suaagra Neupane", "9867153408", "Ramechhap"),
  -> ("Nima Sherpa", "9842357910", "Solukhumbu"),
  -> ("Bikash Lama", "9814526873", "Morang"),
  -> ("Arun Subedi", "9818247603", "Ilam");
Query OK, 10 rows affected (0.005 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

Figure 6 Inserting values into Customer

- Displaying records of Customer

```
MariaDB [TakutonOnline]> SELECT * FROM Customer;
```

CustomerID	FullName	PhoneNumber	Address
1	Niwahang Angbuhang	9818284883	Kathmandu
2	Sandesh Shrestha	9823088370	Lalitpur
3	Bikesh Shrestha	9841859741	Bhaktapur
4	Sikum Hang Angdembe	9818585774	Panchthar
5	Bibek Ale Magar	9823056972	Sindhuli
6	Niraj Sigdel	9841256741	Sindhupalchok
7	Suaagra Neupane	9867153408	Ramechhap
8	Nima Sherpa	9842357910	Solukhumbu
9	Bikash Lama	9814526873	Morang
10	Arun Subedi	9818247603	Ilam

10 rows in set (0.001 sec)

Figure 7 Displaying records of Customer

- Employee
 - Creating Employee table

```
MariaDB [TakutonOnline]> CREATE TABLE Employee(
  -> EmployeeID INT PRIMARY KEY,
  -> FullName VARCHAR(255) NOT NULL,
  -> Address VARCHAR(255) DEFAULT "Address not given");
Query OK, 0 rows affected (0.026 sec)
```

Figure 8 Creating Employee table

- Describing Employee table

```
MariaDB [TakutonOnline]> DESCRIBE Employee;
```

Field	Type	Null	Key	Default	Extra
EmployeeID	int(11)	NO	PRI	NULL	
FullName	varchar(255)	NO		NULL	
Address	varchar(255)	YES		Address not given	

3 rows in set (0.008 sec)

Figure 9 Describing Employee table

- Inserting values into Employee

```

MariaDB [TakutonOnline]> INSERT INTO Employee VALUES
  -> (04, "Ragav Baskota", "Jhapa"),
  -> (15, "Ram Bhujel", "Chitwan"),
  -> (30, "Manoj Rai", "Taplejung"),
  -> (36, "Nikita Pokhrel", "Pokhara"),
  -> (44, "Apsara Tamang", "Doti"),
  -> (49, "Sapana Gurung", "Kavrepalanchok"),
  -> (57, "Anusha Sapkota", "Achaam"),
  -> (61, "Hari Limbu", "Terathum"),
  -> (66, "Pasang Lama", "Solukhumbu"),
  -> (69, "Dhan Bahadur Rai", "Morang");
Query OK, 10 rows affected (0.005 sec)
Records: 10  Duplicates: 0  Warnings: 0

```

Figure 10 Inserting values into Employee

- Displaying records of Employee

```

MariaDB [TakutonOnline]> SELECT * FROM Employee;
+-----+-----+-----+
| EmployeeID | FullName      | Address      |
+-----+-----+-----+
| 4          | Ragav Baskota | Jhapa        |
| 15         | Ram Bhujel    | Chitwan      |
| 30         | Manoj Rai     | Taplejung    |
| 36         | Nikita Pokhrel| Pokhara      |
| 44         | Apsara Tamang | Doti         |
| 49         | Sapana Gurung | Kavrepalanchok|
| 57         | Anusha Sapkota| Achaam       |
| 61         | Hari Limbu    | Terathum     |
| 66         | Pasang Lama   | Solukhumbu   |
| 69         | Dhan Bahadur Rai| Morang      |
+-----+-----+-----+
10 rows in set (0.000 sec)

```

Figure 11 Displaying records of Employee

- Item
 - Creating Item table

```

MariaDB [TakutonOnline]> CREATE TABLE Item(
  -> ItemID INT PRIMARY KEY,
  -> ItemName VARCHAR(255) NOT NULL,
  -> ItemPrice INT NOT NULL);
Query OK, 0 rows affected (0.022 sec)

```

Figure 12 Creating Item table

- Describing Item table

```

MariaDB [TakutonOnline]> DESCRIBE Item;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ItemID     | int(11)       | NO   | PRI | NULL    |       |
| ItemName   | varchar(255)  | NO   |     | NULL    |       |
| ItemPrice  | int(11)       | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.007 sec)

```

Figure 13 Describing Item table

- Inserting values into Item

```

MariaDB [takutononline]> INSERT INTO Item VALUES
-> (007, "PlayStation 5", 60000),
-> (021, "Smart OLED 4K TV", 40000),
-> (024, "Washing Machine", 7000),
-> (032, "Vacuum Cleaner", 5000),
-> (048, "iPhone 12", 180000),
-> (064, "Guitar", 15000),
-> (084, "Hoodie", 3500),
-> (085, "Jacket", 4200),
-> (103, "Whisky", 5300),
-> (145, "MacBook Pro", 325000),
-> (210, "Blanket", 1750);
Query OK, 11 rows affected (0.006 sec)
Records: 11  Duplicates: 0  Warnings: 0

```

Figure 14 Inserting values into Item

- Displaying records of Item

```
MariaDB [takutononline]> SELECT * FROM Item;
```

ItemID	ItemName	ItemPrice
7	PlayStation 5	60000
21	Smart OLED 4K TV	40000
24	Washing Machine	7000
32	Vacuum Cleaner	5000
48	iPhone 12	180000
64	Guitar	15000
84	Hoodie	3500
85	Jacket	4200
103	Whisky	5300
145	MacBook Pro	325000
210	Blanket	1750

11 rows in set (0.002 sec)

Figure 15 Displaying records of Item

- Delivery
 - Creating Delivery table

```
MariaDB [TakutonOnline]> CREATE TABLE Delivery(
-> DeliveryID INT PRIMARY KEY,
-> Confirmation VARCHAR(255) DEFAULT "Not Delivered",
-> DeliveryDate DATE);
Query OK, 0 rows affected (0.024 sec)
```

Figure 16 Creating Delivery table

- Describing Delivery table

```
MariaDB [TakutonOnline]> DESCRIBE Delivery;
```

Field	Type	Null	Key	Default	Extra
DeliveryID	int(11)	NO	PRI	NULL	
Confirmation	varchar(255)	YES		Not Delivered	
DeliveryDate	date	YES		NULL	

3 rows in set (0.007 sec)

Figure 17 Describing Delivery table

- Inserting values into Delivery

```

MariaDB [takutononline]> INSERT INTO Delivery VALUES
  -> (104, "Delivered", "2019-11-12"),
  -> (147, "Delivered", "2019-12-29"),
  -> (163, "Delivered", "2020-01-11"),
  -> (169, "Delivered", "2020-01-19"),
  -> (185, "Delivered", "2020-01-30"),
  -> (200, "Delivered", "2020-02-08"),
  -> (209, "Delivered", "2020-02-14"),
  -> (224, "Delivered", "2020-02-25"),
  -> (239, "Delivered", "2020-03-15"),
  -> (376, "Delivered", "2020-05-01"),
  -> (399, "Delivered", "2020-05-24");
Query OK, 11 rows affected (0.006 sec)
Records: 11  Duplicates: 0  Warnings: 0

```

Figure 18 Inserting values into Delivery

- Displaying records of Delivery

```

MariaDB [takutononline]> SELECT * FROM Delivery;
+-----+-----+-----+
| DeliveryID | Confirmation | DeliveryDate |
+-----+-----+-----+
|      104 | Delivered    | 2019-11-12   |
|      147 | Delivered    | 2019-12-29   |
|      163 | Delivered    | 2020-01-11   |
|      169 | Delivered    | 2020-01-19   |
|      185 | Delivered    | 2020-01-30   |
|      200 | Delivered    | 2020-02-08   |
|      209 | Delivered    | 2020-02-14   |
|      224 | Delivered    | 2020-02-25   |
|      239 | Delivered    | 2020-03-15   |
|      376 | Delivered    | 2020-05-01   |
|      399 | Delivered    | 2020-05-24   |
+-----+-----+-----+
11 rows in set (0.001 sec)

```

Figure 19 Displaying records of Delivery

- Order
 - Creating Order table

```
MariaDB [takutononline]> CREATE TABLE `Order` (
  -> OrderID INT PRIMARY KEY,
  -> Customer INT,
  -> Item INT,
  -> OrderDate DATE,
  -> Employee INT,
  -> Delivery INT,
  -> FOREIGN KEY (Customer) REFERENCES Customer(CustomerID),
  -> FOREIGN KEY (Item) REFERENCES Item(ItemID),
  -> FOREIGN KEY (Employee) REFERENCES Employee(EmployeeID),
  -> FOREIGN KEY (Delivery) REFERENCES Delivery(DeliveryID));
Query OK, 0 rows affected (0.036 sec)
```

Figure 20 Creating Order table

- Describing Order table

```
MariaDB [takutononline]> DESCRIBE `Order`;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| OrderID    | int(11)   | NO   | PRI | NULL    |       |
| Customer   | int(11)   | YES  | MUL | NULL    |       |
| Item       | int(11)   | YES  | MUL | NULL    |       |
| OrderDate  | date      | YES  |     | NULL    |       |
| Employee   | int(11)   | YES  | MUL | NULL    |       |
| Delivery   | int(11)   | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.006 sec)
```

Figure 21 Describing Order table

- Inserting values into Order

```

MariaDB [takutononline]> INSERT INTO `Order` VALUES
-> (1, 1, 7, "2019-11-08", 4, 104),
-> (2, 1, 21, "2019-12-24", 15, 147),
-> (3, 2, 24, "2020-01-07", 30, 163),
-> (4, 3, 32, "2020-01-15", 36, 169),
-> (5, 4, 48, "2020-01-26", 44, 185),
-> (6, 5, 64, "2020-02-06", 49, 200),
-> (7, 6, 84, "2020-02-06", 49, 209),
-> (8, 7, 85, "2020-02-21", 57, 224),
-> (9, 8, 103, "2020-03-11", 61, 239),
-> (10, 9, 145, "2020-04-29", 66, 376),
-> (11, 10, 210, "2020-05-20", 69, 399);
Query OK, 11 rows affected (0.007 sec)
Records: 11  Duplicates: 0  Warnings: 0

```

Figure 22 Inserting values into Order

- Displaying records of Order

```

MariaDB [takutononline]> SELECT * FROM `Order`;
+-----+-----+-----+-----+-----+-----+
| OrderID | Customer | Item | OrderDate | Employee | Delivery |
+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 7 | 2019-11-08 | 4 | 104 |
| 2 | 1 | 21 | 2019-12-24 | 15 | 147 |
| 3 | 2 | 24 | 2020-01-07 | 30 | 163 |
| 4 | 3 | 32 | 2020-01-15 | 36 | 169 |
| 5 | 4 | 48 | 2020-01-26 | 44 | 185 |
| 6 | 5 | 64 | 2020-02-06 | 49 | 200 |
| 7 | 6 | 84 | 2020-02-06 | 49 | 209 |
| 8 | 7 | 85 | 2020-02-21 | 57 | 224 |
| 9 | 8 | 103 | 2020-03-11 | 61 | 239 |
| 10 | 9 | 145 | 2020-04-29 | 66 | 376 |
| 11 | 10 | 210 | 2020-05-20 | 69 | 399 |
+-----+-----+-----+-----+-----+-----+
11 rows in set (0.001 sec)

```

Figure 23 Displaying records of Order

3. Data Dictionary

Data dictionary describes the structure of the whole database. Data dictionary consists of names and descriptions to the attributes in the form of spreadsheet. It is used to provide information about the data.

- Customer

Entity Name	Entity Description	Column Name	Column Description	Data Type	Length	Primary Key	Foreign Key	Nullable	Unique	Notes
Customer	Customer entity stores all the details about the customers that register to shop online	CustomerID	Unique ID of the customer for identification	INT		True	False	False	True	Auto-Increment
		FullName	Full name of the customer	VARCHAR	255	False	False	False	False	
		PhoneNumber	Phone number of the customer	VARCHAR	255	False	False	False	True	
		Address	Address of the customer	VARCHAR	255	False	False	False	False	

Table 1 Data Dictionary of Customer

- Employee

Entity Name	Entity Description	Column Name	Column Description	Data Type	Length	Primary Key	Foreign Key	Nullable	Unique	Notes
Employee	Employee entity stores all the details about the employee that record the orders made by the customers	Employee ID	Unique ID of the employee for identification	INT		True	False	False	True	
		FullName	Full name of the customer	VARCHAR	255	False	False	False	False	
		Address	Address of the employee	VARCHAR	255	False	False	True	False	Default "Address not given"

Table 2 Data Dictionary of Employee

- Item

Entity Name	Entity Description	Column Name	Column Description	Data Type	Length	Primary Key	Foreign Key	Nullable	Unique	Notes
Item	Item entity stores all the items that TakutonOnline have to offer to the customers	ItemID	Unique ID of the items for identification	INT		True	False	False	True	
		ItemName	The name of the item	VARCHAR	255	False	False	False	False	
		ItemPrice	The price of the item	INT		False	False	False	False	

Table 3 Data Dictionary of Item

- Delivery

Entity Name	Entity Description	Column Name	Column Description	Data Type	Length	Primary Key	Foreign Key	Nullable	Unique	Notes
Delivery	Delivery entity stores the delivery numbers, confirmation and date for the order to be delivered to the customer	DeliveryID	Unique ID of the delivery for identification	INT		True	False	False	True	
		Confirmation	Confirmation whether the order has been delivered or not	VARCHAR	255	False	False	True	False	Default "Not Delivered"
		Delivery Date	The date of the delivery	DATE		False	False	True	False	

Table 4 Data Dictionary of Delivery

- Order

Entity Name	Entity Description	Column Name	Column Description	Data Type	Length	Primary Key	Foreign Key	Nullable	Unique	Notes
Order	Order entity stores the orders made by the customer, the items in the order and the delivery numbers for the delivery	OrderID	Unique ID of the order for identification	INT		True	False	False	True	
		Customer	Unique ID of the customer	INT		False	True	True	True	
		Item	Unique ID of the item	INT		False	True	True	True	
		OrderDate	Date the order was placed	DATE		False	False	True	False	
		Employee	Unique ID of the employee	INT		False	True	True	True	
		Delivery	Unique ID of the delivery	INT		False	True	True	True	

Table 5 Data Dictionary of Order

4. Queries

4.1 Query 1

Query No.	Query 1
Query	SELECT * FROM Customer WHERE Address LIKE "%r";
Keywords Used	WHERE, LIKE

Table 6 Query 1

```
MariaDB [takutononline]> SELECT * FROM Customer WHERE Address LIKE "%r";
```

CustomerID	FullName	PhoneNumber	Address
2	Sandesh Shrestha	9823088370	Lalitpur
3	Bikesh Shrestha	9841859741	Bhaktapur
4	Sikum Hang Angdembe	9818585774	Panchthar

3 rows in set (0.001 sec)

Figure 24 Query 1

4.2 Query 2

Query No.	Query 2
Query	SELECT * FROM Customer ORDER BY FullName;
Keywords Used	ORDER BY

Table 7 Query 2

```
MariaDB [takutononline]> SELECT * FROM Customer ORDER BY FullName;
```

CustomerID	FullName	PhoneNumber	Address
10	Arun Subedi	9818247603	Ilam
5	Bibek Ale Magar	9823056972	Sindhuli
9	Bikash Lama	9814526873	Morang
3	Bikesh Shrestha	9841859741	Bhaktapur
8	Nima Sherpa	9842357910	Solukhumbu
6	Niraj Sigdel	9841256741	Sindhupalchok
1	Niwahang Angbuhang	9818284883	Kathmandu
2	Sandesh Shrestha	9823088370	Lalitpur
4	Sikum Hang Angdembe	9818585774	Panchthar
7	Suaagra Neupane	9867153408	Ramechhap

10 rows in set (0.002 sec)

Figure 25 Query 2

4.3 Query 3

Query No.	Query 3
Query	SELECT * FROM Item WHERE ItemPrice BETWEEN 10000 AND 100000
Keywords Used	WHERE, BETWEEN, AND

Table 8 Query 3

```
MariaDB [takutononline]> SELECT * FROM Item WHERE ItemPrice BETWEEN 10000 AND 100000;
+-----+-----+-----+
| ItemID | ItemName          | ItemPrice |
+-----+-----+-----+
|      7 | PlayStation 5     |    60000 |
|     21 | Smart OLED 4K TV  |    40000 |
|     64 | Guitar            |    15000 |
+-----+-----+-----+
3 rows in set (0.001 sec)
```

Figure 26 Query 3

4.4 Query 4

Query No.	Query 4
Query	SELECT * FROM Delivery WHERE DeliveryID >=200;
Keywords Used	WHERE, Great or Equal to Operator (>=)

Table 9 Query 4

```
MariaDB [takutononline]> SELECT * FROM Delivery WHERE DeliveryID>=200;
+-----+-----+-----+
| DeliveryID | Confirmation | DeliveryDate |
+-----+-----+-----+
|         200 | Delivered    | 2020-02-08   |
|         209 | Delivered    | 2020-02-14   |
|         224 | Delivered    | 2020-02-25   |
|         239 | Delivered    | 2020-03-15   |
|         376 | Delivered    | 2020-05-01   |
|         399 | Delivered    | 2020-05-24   |
+-----+-----+-----+
6 rows in set (0.001 sec)
```

Figure 27 Query 4

4.5 Query 5

Query No.	Query 5
Query	SELECT * FROM `Order` WHERE OrderID IN (1,2,5,7);
Keywords Used	WHERE, IN

Table 10 Query 5

```
MariaDB [takutononline]> SELECT * FROM `Order` WHERE OrderID IN (1,2,5,7);
+-----+-----+-----+-----+-----+-----+
| OrderID | Customer | Item | OrderDate | Employee | Delivery |
+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 7 | 2019-11-08 | 4 | 104 |
| 2 | 1 | 21 | 2019-12-24 | 15 | 147 |
| 5 | 4 | 48 | 2020-01-26 | 44 | 185 |
| 7 | 6 | 84 | 2020-02-06 | 49 | 209 |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.002 sec)
```

Figure 28 Query 5

4.6 Query 6

Query No.	Query 6
Query	SELECT FullName, Address FROM Employee ORDER BY FullName DESC LIMIT 3;
Keywords Used	ORDER BY, DESC, LIMIT

Table 11 Query 6

```
MariaDB [takutononline]> SELECT FullName, Address FROM Employee ORDER BY FullName DESC LIMIT 3;
+-----+-----+
| FullName | Address |
+-----+-----+
| Sapana Gurung | Kavrepalanchok |
| Ram Bhujel | Chitwan |
| Ragav Baskota | Jhapa |
+-----+-----+
3 rows in set (0.001 sec)
```

Figure 29 Query 6

4.7 Query 7

Query No.	Query 7
Query	SELECT SUM(ItemPrice) FROM Item;
Keywords Used	SUM ()

Table 12 Query 7

```
MariaDB [takutononline]> SELECT SUM(ItemPrice) FROM Item;
+-----+
| SUM(ItemPrice) |
+-----+
|          646750 |
+-----+
1 row in set (0.003 sec)
```

Figure 30 Query 7

4.8 Query 8

Query No.	Query 8
Query	SELECT COUNT(EmployeeID) AS Total_Employees FROM Employee;
Keywords Used	COUNT, AS

Table 13 Query 8

```
MariaDB [takutononline]> SELECT COUNT(EmployeeID) AS Total_Employees FROM Employee;
+-----+
| Total_Employees |
+-----+
|              10 |
+-----+
1 row in set (0.002 sec)
```

Figure 31 Query 8

4.9 Query 9

Query No.	Query 9
Query	SELECT * FROM Customer JOIN `Order` ON CustomerID = Customer;
Keywords Used	JOIN, ON

Table 14 Query 9

```
MariaDB [takutononline]> SELECT * FROM Customer JOIN `Order` ON CustomerID = Customer;
```

CustomerID	FullName	PhoneNumber	Address	OrderID	Customer	Item	OrderDate	Employee	Delivery
1	Niwahang Angbuhang	9818284883	Kathmandu	1	1	7	2019-11-08	4	104
1	Niwahang Angbuhang	9818284883	Kathmandu	2	1	21	2019-12-24	15	147
2	Sandesh Shrestha	9823088370	Lalitpur	3	2	24	2020-01-07	30	163
3	Bikesh Shrestha	9841859741	Bhaktapur	4	3	32	2020-01-15	36	169
4	Sikum Hang Angdembe	9818585774	Panchthar	5	4	48	2020-01-26	44	185
5	Bibek Ale Magar	9823056972	Sindhuli	6	5	64	2020-02-06	49	200
6	Niraj Sigdel	9841256741	Sindhupalchok	7	6	84	2020-02-06	49	209
7	Suaagra Neupane	9867153408	Ramechhap	8	7	85	2020-02-21	57	224
8	Nima Sherpa	9842357910	Solukhumbu	9	8	103	2020-03-11	61	239
9	Bikash Lama	9814526873	Morang	10	9	145	2020-04-29	66	376
10	Arun Subedi	9818247603	Ilam	11	10	210	2020-05-20	69	399

11 rows in set (0.002 sec)

Figure 32 Query 9

4.10 Query 10

Query No.	Query 10
Query	UPDATE Item SET ItemPrice = 2000 WHERE ItemID = 210;
Keywords Used	UPDATE, SET

Table 15 Query 10

```
MariaDB [takutononline]> SELECT * FROM Item WHERE ItemID = 210;
```

ItemID	ItemName	ItemPrice
210	Blanket	1750

1 row in set (0.000 sec)

```
MariaDB [takutononline]> UPDATE Item SET ItemPrice = 2000 WHERE ItemID = 210;
```

Query OK, 1 row affected (0.005 sec)
Rows matched: 1 Changed: 1 Warnings: 0

```
MariaDB [takutononline]> SELECT * FROM Item WHERE ItemID = 210;
```

ItemID	ItemName	ItemPrice
210	Blanket	2000

1 row in set (0.001 sec)

Figure 33 Query 10

5. Conclusion

The database plays an important role for any organization for their smooth operation. The database management system is a great way for recording data and managing it. In Takuton Online, the customers login with the ID created. Each have their own unique customer number. The customer places the order for the item they want. While the employees record the transaction of the customer placing the order. Finally, the order is delivered to the customer. The relationship between the entities was shown above with the help of ER diagram and relational diagram. Takuton online operates all over Nepal so having a store in each place is kind of difficult financially. Therefore, operating online is the best possible way. Since, a lot of customers order their items from everywhere a database makes it way easier for the employee to record and manipulate the data.

Overall, the database turned out to be an interesting topic. Creating database, creating tables with entities and inserting values in the table through MySQL was fun. There were some problems at first, but through trial and error I found the problem and the solution to that problem. I learned the importance of database in a business organization for its smooth running. Learning something new is always a plus point. The coursework has helped me improve my knowledge and skills further about databases and report writing.

Bibliography

Gunjal, B., December 2003. Database Management: Concepts and Design.