DoorDash
Online Food Delivery

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Introduction

- DoorDash is the largest food delivery company in the US.
- Users can get their food delivered at doorstep from the restaurant they ordered.
- DoorDash business model rotates around 4 main actors:
  - The Customers
  - The Delivery Personnel
  - The Restaurant Partners
  - Admin

DOORDASH

Database Development Cycle

Requirement collection

- analysis phase

Conceptual design phase

- Entities
- Relationships
- Constraints

Designing of ER/EER Diagram

Logical design phase

- Describes the data
- Primary key and Foreign key are defined

Physical design phase

- Data type & size.
- Specifications for storing and accessing the database

Implementing and Loading phase

- Data conversion

Testing and evaluation phase

To ensure

- Integrity
- Accuracy
- Consistency

Conceptual Design - EER Model

- EER creates a design more accurate to database schemas
- It reflects the data properties and constraints more precisely.
- It includes all modeling concepts of the ER model.
- Diagrammatic technique helps for displaying the EER schema.
- It includes the concept of specialization and generalization.
- Each entity, attribute, and relationship, should have appropriate names that can be easily understood by the non-technical people as well.

EER Diagram Notations

3 Main components of EER Diagram are

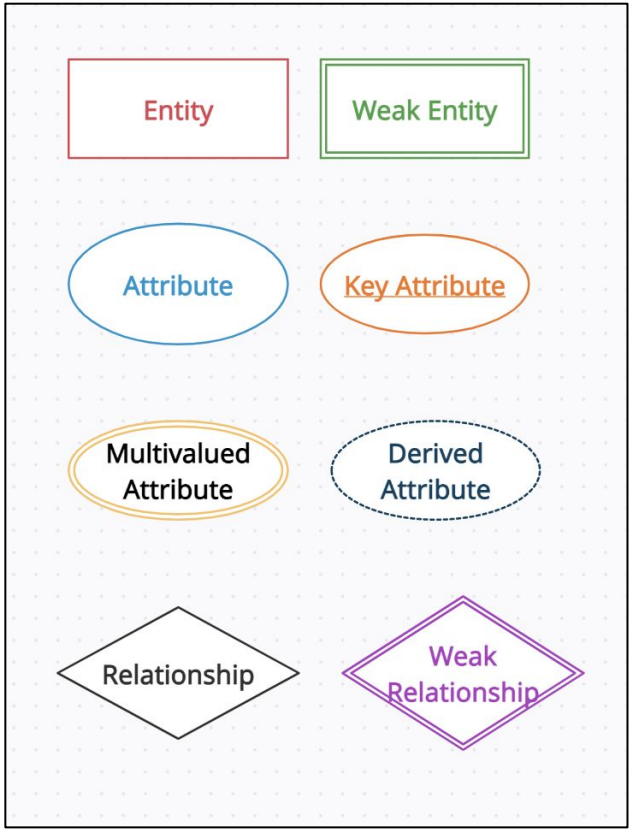
- Entity
- Attribute
- Relationship

Rectangle represents Entity
Double Rectangle represents Weak Entity

Oval represents Attribute
Oval with dashed Attribute represents Key Attribute

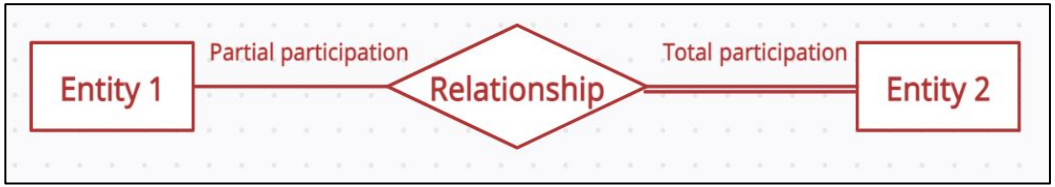
Double Oval represents Multivalued Attribute
Dashed Oval represents Derived Attribute

Diamond represents Relationship
Double Diamond represents Weak Relationship.

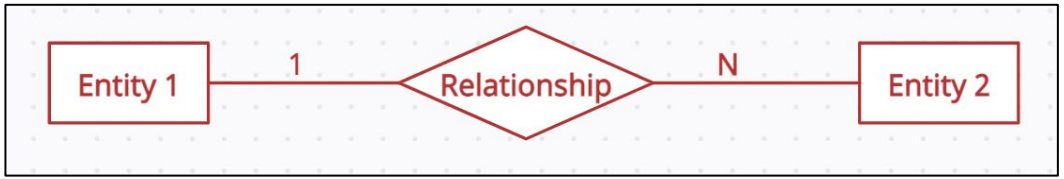


ER Diagram Notations

Total Participation: Each entity is involved in the relationship. Total participation is represented by double lines.
Partial Participation: Not all entities are involved in the relationship. Partial participation is represented by single lines.

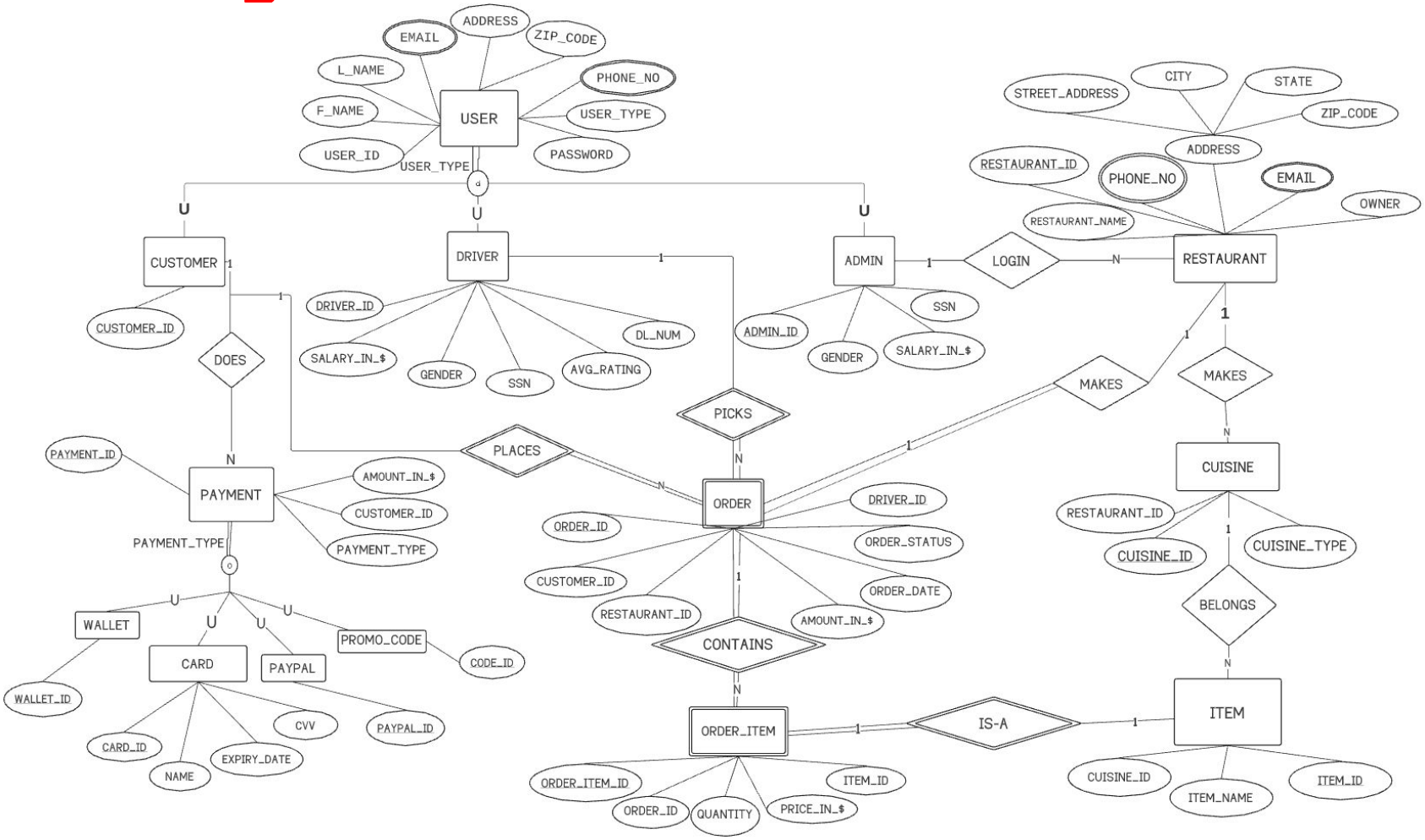


Types of Relationship(Cardinality Ratio)
When a single instance of an entity is associated with more than one instances of another entity then it is called one to many relationship. (1:N)



Similarly we have 1:1, N:1 and M:N relationships.

EER Diagram


USER
EMAIL
ADDRESS
ZIP_CODE
L_NAME
PHONE_NO
F_NAME
USER_TYPE
USER_ID
PASSWORD
USER_TYPE
d
U
U
U
CUSTOMER
DRIVER
ADMIN
LOGIN
RESTAURANT
CUSTOMER_ID
DOES
DRIVER_ID
SALARY_IN_$
GENDER
SSN
AVG_RATING
DL_NUM
ADMIN_ID
SSN
GENDER
SALARY_IN_$
STREET_ADDRESS
CITY
STATE
ZIP_CODE
ADDRESS
RESTAURANT_ID
PHONE_NO
EMAIL
OWNER
RESTAURANT_NAME
MAKES
MAKES
PICKS
PLACES
PAYMENT_ID
PAYMENT
AMOUNT_IN_$
CUSTOMER_ID
PAYMENT_TYPE
PAYMENT_TYPE
ORDER
ORDER_ID
CUSTOMER_ID
RESTAURANT_ID
DRIVER_ID
ORDER_STATUS
ORDER_DATE
AMOUNT_IN_$
CONTAINS
CUISINE
RESTAURANT_ID
CUISINE_ID
CUISINE_TYPE
BELONGS
WALLET
CARD
PAYPAL
PROMO_CODE
CODE_ID
WALLET_ID
CARD_ID
NAME
EXPIRY_DATE
CVV
PAYPAL_ID
ORDER_ITEM
IS-A
ITEM
ORDER_ITEM_ID
ORDER_ID
QUANTITY
PRICE_IN_$
ITEM_ID
CUISINE_ID
ITEM_NAME
ITEM_ID

EER Model Explanation

Entity Types

- **USERS** (USER_ID,F_NAME, L_NAME, EMAIL (multivalued), ADDRESS,ZIP_CODE, PHONE_NO(multivalued), PASSWORD, USER_TYPE).
  USERS entity type is superclass to 3 different subclasses based on USER_TYPE CUSTOMER, DRIVER and ADMIN. This specialization is disjoint (d) meaning, users cannot be of more than one user type at a time.

- **CUSTOMER** (CUSTOMER_ID)

- **DRIVER** (DRIVER_ID, SALARY_IN_$, GENDER, SSN, AVG_RATING, DL_NUM)

- **ADMIN** (ADMIN_ID, SALARY_IN_$, GENDER, SSN)

EER Model Explanation

Entity Types

- **RESTAURANT** (RESTAURANT_ID, RESTAURANT_NAME, PHONE_NO(multivalued), ADDRESS(STREET_ADDRESS, CITY, STATE, ZIP_CODE), E_MAIL (multivalued), OWNER)
- **CUISINE**(CUISINE_ID, CUISINE_TYPE, RESTAURANT_ID).
- **ITEM**(ITEM_ID, ITEM_NAME, CUISINE_ID).
- **ORDER** (ORDER_ID, CUSTOMER_ID, RESTAURANT_ID, AMOUNT_IN_$, ORDER_DATE, ORDER_STATUS,DRIVER_ID). It is a weak entity as ORDER is CUSTOMER dependent.
- **ORDER_ITEM** (ORDER_ITEM_ID, ORDER_ID, QUANTITY, PRICE_IN_$, ITEM_ID). It is a weak entity as ORDER_ITEM is ORDER dependent which is indirectly CUSTOMER dependent.

EER Model Explanation

Entity Types

- **PAYMENT** (PAYMENT_ID,CUSTOMER_ID, AMOUNT_IN_$, PAYMENT_TYPE)
  PAYMENT entity type is superclass to 4 different subclasses based on PAYMENT_TYPE WALLET, CREDIT/DEBIT, PAYPAL and PROMO_CODE. This specialization is overlapping (O) meaning, payment can be made from one or more of the payment types at a time.
- **WALLET** (WALLET_ID,PAYMENT_ID)
- **CARD** (CARD_ID, NAME, EXPIRY_DATE, CVV,PAYMENT_ID)
- **PAYPAL** (PAYPAL_ID,PAYMENT_ID)
- **PROMO_CODE** (CODE_ID, PAYMENT_ID)

EER Model Explanation

Relationship Types

- **DOES** - This relationship relates CUSTOMER and PAYMENT. The cardinality ratio is 1:N as one customer can make payments through multiple payment types.

- **PLACES** - This relationship relates CUSTOMER and ORDER. It is a weak relationship as it relates a strong entity CUSTOMER and weak entity ORDER. The cardinality ratio is 1:N as one customer can make multiple orders and multiple orders belong to one customer. There is complete participation of ORDER in this relationship.

- **CONTAINS** - This relationship relates ORDER and ORDER_ITEM. It is a weak relationship as it relates a weak entity ORDER and weak entity ORDER_ITEM. The cardinality ratio is 1:N as one order contains multiple order items and multiple order items belong to one order. There is complete participation of ORDER and ORDER_ITEM in this relationship.

EER Model Explanation

Relationship Types

- **LOGIN** - This relationship relates ADMIN and RESTAURANT. The cardinality ratio is 1:N as one admin account can login into multiple restaurant.
- **MAKES** - This relationship relates RESTAURANT and CUISINE. The cardinality ratio is 1:N as one restaurant can make multiple cuisines.
- **BELONGS** - This relationship relates ITEM and CUISINE.The cardinality ratio is N:1 as multiple items can belongs to one cuisine.
- **PICKS** - This relationship relates DRIVER and ORDER.The cardinality ratio is 1:N as one driver can pick multiple orders at a time. It is a weak relationship as it relates a strong entity DRIVER and weak entity ORDER. There is complete participation of ORDER in this relationship.

EER Model Explanation

Relationship Types

- **FROM** - This relationship relates RESTAURANT and ORDER. The cardinality ratio is 1:1 as we can order from one only restaurant at a time. It is a weak relationship as it relates a strong entity RESTAURANT and weak entity ORDER. There is complete participation of ORDER in this relationship.

- **IS-A** - This relationship relates ITEM and ORDER_ITEM. The cardinality ratio is 1:1 as the item we order is an item of the restaurant. It is a weak relationship as it relates a strong entity ITEM and weak entity ORDER_ITEM. There is complete participation of ORDER_ITEM in this relationship.

EER Model Explanation

Relationship Types

Entity	Relationship	Cardinality Ratio	Entity
CUSTOMER	DOES	1:N	PAYMENT
CUSTOMER	PLACES	1:N	ORDER
ORDER	CONTAINS	1:N	ORDER_ITEM
ADMIN	LOGIN	1:N	RESTAURANT
RESTAURANT	MAKES	1:N	CUISINE
ITEM	BELONGS	N:1	CUISINE
DRIVER	PICKS	1:N	ORDER
ORDER	FROM	1:1	RESTAURANT
ITEM	IS-A	1:1	ORDER_ITEM

EER Model Explanation

Tables

USERS table

```
MariaDB [19577rs]> select * from USERS;
+---------+----------+---------+-------------------------+-----------------------------------------+---------+------------+-------------+-----------+
| USER_ID | F_NAME   | L_NAME  | E_MAIL                  | ADDRESS                                 | ZIPCODE | PHONE_NO   | PASSWORD    | USER_TYPE |
+---------+----------+---------+-------------------------+-----------------------------------------+---------+------------+-------------+-----------+
|       1 | John     | Smith   | john_smith@gmail.com    | 456 Corriea Way,Fremont,CA              | 94538   | 1234569873 | qwerty@123  | Customer  |
|       2 | David    | Warner  | david_warner@gmail.com  | 1401 Taylor Street,San Jose,CA          | 95119   | 5012346791 | thanks@305  | Customer  |
|       3 | Sherlock | Holmes  | sherlock_holmes@gmail.com | 123 Belmont Way,Fresno,CA             | 93711   | 9876543213 | dsfasdf_456 | Driver    |
|       4 | Raj      | Kumar   | raj_kumar@gmail.com     | 304 Logan Street, Fremont,CA            | 95438   | 4052180276 | gdserg_345  | Driver    |
|       5 | Siva     | Sai     | siva_sai@gmail.com      | 567 Stevenson Street, Santa Clara, CA   | 97685   | 4052176743 | dgsthd@541  | Admin     |
|       6 | Emily    | Cortes  | emily_cortes@gmail.com  | 789 Walnut Creek,Fremont,CA             | 94538   | 4012363679 | dgserg@789  | Admin     |
+---------+----------+---------+-------------------------+-----------------------------------------+---------+------------+-------------+-----------+
6 rows in set (0.000 sec)
```

DRIVER table

```
MariaDB [19577rs]> select * from DRIVER;
+-----------+--------+-----------+----------+-------------+------------+---------+
| DRIVER_ID | GENDER | SSN       | DL_NUM   | SALARY_IN_$ | AVG_RATING | USER_ID |
+-----------+--------+-----------+----------+-------------+------------+---------+
|         1 | M      | 123456789 | 43567283 |    50000.00 |          5 |       3 |
|         2 | M      | 333444555 | 45667283 |    48000.00 |        4.7 |       4 |
+-----------+--------+-----------+----------+-------------+------------+---------+
2 rows in set (0.000 sec)
```

EER Model Explanation

Tables

ADMIN table

```
MariaDB [19577rs]> select * from ADMIN;
+----------+--------+-----------+-------------+---------+
| ADMIN_ID | GENDER | SSN       | SALARY_IN_$ | USER_ID |
+----------+--------+-----------+-------------+---------+
|        1 | M      | 123123555 |    80000.00 |       5 |
|        2 | F      | 123123123 |    85000.00 |       6 |
+----------+--------+-----------+-------------+---------+
2 rows in set (0.000 sec)
```

RESTAURANT table

```
MariaDB [19577rs]> select * from RESTAURANT;
+---------------+-----------------+-----------------------------+-------------------+-----------+------------+---------+------------+-----------------+
| RESTAURANT_ID | RESTAURANT_NAME | E_MAIL                      | STREET_ADDRESS    | CITY      | STATE      | ZIPCODE | PHONE_NO   | OWNER           |
+---------------+-----------------+-----------------------------+-------------------+-----------+------------+---------+------------+-----------------+
|             1 | Chaat Bhavan    | chaat_bhavan@gmail.com      | 5355 Mowry Ave    | Fremont   | California | 94538   | 5107951100 | Sreekar Shetty  |
|             2 | Curry Pizza House | currypizzahouse.com       | 39070 Fremont Blvd | Fremont  | California | 94539   | 5107967800 | Satish Kumar    |
|             3 | Panda Express   | pandaexpress.com            | 39429 Fremont Blvd | Fremont   | California | 94540   | 5106597917 | Anand Kapoor    |
|             4 | India Garden    | www.indiagardenpleasanton.com | 210 Rose Ave    | Pleasanton | California | 94566   | 9254854800 | Pankaj Singh    |
+---------------+-----------------+-----------------------------+-------------------+-----------+------------+---------+------------+-----------------+
4 rows in set (0.000 sec)
```

EER Model Explanation

Tables

CUISINE table

```
MariaDB [19577rs]> select * from CUISINE;
+------------+---------------+-----------------+
| CUISINE_ID | RESTAURANT_ID | CUISINE_TYPE    |
+------------+---------------+-----------------+
|          1 |             1 | Indian          |
|          2 |             1 | Chinese         |
|          3 |             2 | Italian         |
|          4 |             2 | Indian          |
|          5 |             2 | Mexican         |
|          6 |             3 | Chinese         |
|          7 |             3 | Korean          |
|          8 |             3 | Burmese         |
|          9 |             4 | South Indian    |
|         10 |             4 | North Indian    |
|         11 |             4 | Western Indian  |
+------------+---------------+-----------------+
11 rows in set (0.000 sec)
```

CUSTOMER table

```
MariaDB [19577rs]> select * from CUSTOMER;
+-------------+---------+
| CUSTOMER_ID | USER_ID |
+-------------+---------+
|           1 |       2 |
|           2 |       1 |
+-------------+---------+
2 rows in set (0.000 sec)
```

EER Model Explanation

Tables

ITEM table

```
MariaDB [19577rs]> select * from ITEM;
+---------+------------+----------------------+
| ITEM_ID | CUISINE_ID | ITEM_NAME            |
+---------+------------+----------------------+
|       1 |          1 | Panner Butter Masala |
|       2 |          1 | Butter Naan          |
|       3 |          2 | Spicy Hakka Noodles  |
|       4 |          2 | Masala Veg Noodles   |
|       5 |          3 | Lasagne              |
|       6 |          3 | Margherita Pizza     |
|       7 |          4 | Kadai Panner         |
|       8 |          4 | Panner 65            |
|       9 |          5 | Tacos                |
|      10 |          5 | Spaghetti            |
|      11 |          6 | Machuria             |
|      12 |          6 | Momos                |
|      13 |          7 | Vegan Kimchi         |
|      14 |          7 | Dumplings            |
|      15 |          8 | Tea Leaf Salad       |
|      16 |          8 | Tohu Thote           |
|      17 |          9 | Pulihora             |
|      18 |          9 | Payasam              |
|      19 |         10 | Moong Dal Halwa      |
|      20 |         10 | Badam Kheer          |
|      21 |         11 | Kakra                |
|      22 |         11 | Fafda                |
+---------+------------+----------------------+
22 rows in set (0.000 sec)
```

ORDER table

```
MariaDB [19577rs]> select * from ORDERS;
+----------+---------------+-------------+--------------+------------+-------------+-----------+
| ORDER_ID | RESTAURANT_ID | CUSTOMER_ID | ORDER_STATUS | ORDER_DATE | AMOUNT_IN_$ | DRIVER_ID |
+----------+---------------+-------------+--------------+------------+-------------+-----------+
|        1 |             3 |           1 | Delivered    | 04/16/2021 |          40 |         1 |
|        2 |             2 |           2 | Ordered      | 04/16/2021 |         120 |         2 |
+----------+---------------+-------------+--------------+------------+-------------+-----------+
2 rows in set (0.000 sec)
```

EER Model Explanation

Tables

ORDER_ITEM table

```
MariaDB [19577rs]> select * from ORDER_ITEM;
+---------------+----------+----------+------------+---------+
| ORDER_ITEM_ID | ORDER_ID | QUANTITY | PRICE_IN_$ | ITEM_ID |
+---------------+----------+----------+------------+---------+
|             1 |        1 |        2 |         10 |      12 |
|             2 |        1 |        1 |         20 |      13 |
|             3 |        2 |        3 |         20 |       5 |
|             4 |        2 |        1 |         30 |       7 |
|             5 |        2 |        2 |         15 |       9 |
+---------------+----------+----------+------------+---------+
5 rows in set (0.000 sec)
```

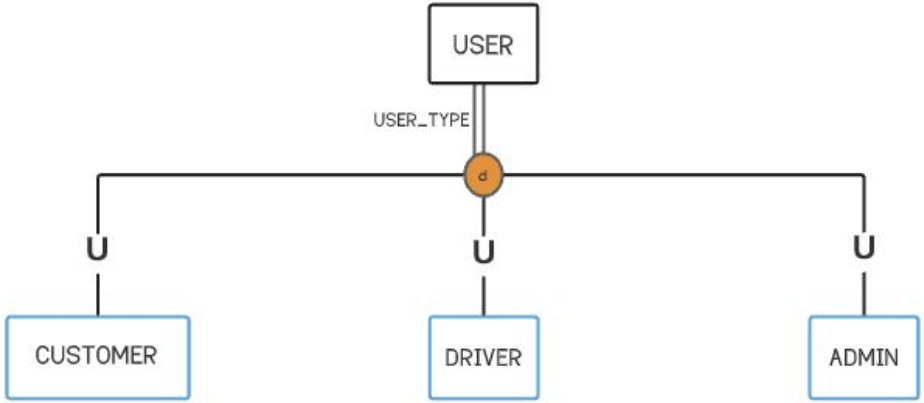
PAYMENT table

```
MariaDB [19577rs]> select * from PAYMENT;
+------------+-------------+-------------+--------------+
| PAYMENT_ID | AMOUNT_IN_$ | CUSTOMER_ID | PAYMENT_TYPE |
+------------+-------------+-------------+--------------+
| 1          |          40 |           1 | CARD         |
| 2          |         120 |           2 | PAYPAL       |
+------------+-------------+-------------+--------------+
2 rows in set (0.000 sec)
```

EER Model Explanation

Subclass and Superclass Types

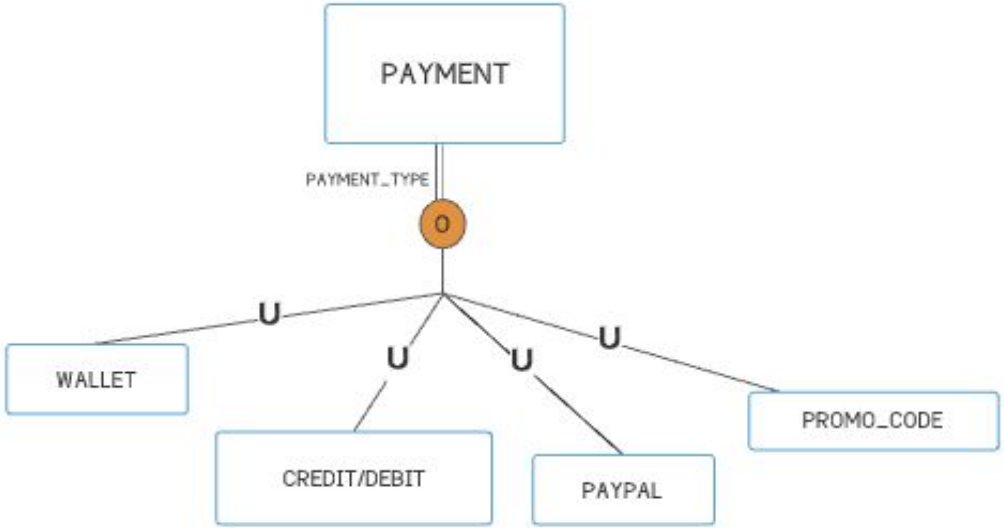
- Subclass and Superclass relationship leads the concept of Inheritance.
- Superclass is an entity type that has a relationship with one or more subtypes.
- Subclass inherits properties and attributes from its superclass



USERS entity type is superclass to 3 different subclasses based on USER_TYPE CUSTOMER, DRIVER and ADMIN. This specialization is disjoint (d) meaning, users cannot be of more than one user type at a time.

EER Model Explanation

Subclass and Superclass Types



PAYMENT entity type is superclass to 4 different subclasses based on PAYMENT_TYPE WALLET, CREDIT/DEBIT, PAYPAL and PROMO_CODE. This specialization is overlapping (O) meaning, payment can be made from one or more of the payment types at a time.

EER Model Explanation

Specialization and Generalization:

- **Generalization** is the process of generalizing the entities which contain the properties of all the generalized entities which means two lower level entities combine to form a higher level entity.

Ex: Customers, Drivers, and Admin can all be generalized as USERS

- **Specialization** is a process of defining a set of subclasses of an entity type based on their characteristics, this entity type is called the superclass of the specialization. It means one higher entity can be broken down into many lower level entities.

Ex: USERS can be specialized as Customer or Admin or Driver , based on USER_TYPE

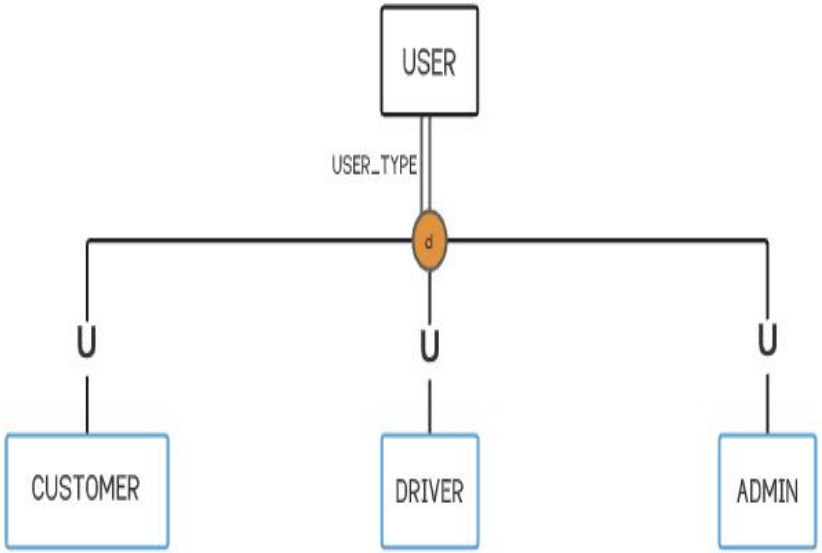
EER Model Explanation

Disjoint - Total Specialization

Disjoint Specialization means that an entity can be a member of ***at most one*** of the subclasses of the specialization.

A **total specialization** constraint specifies that *every* entity in the superclass must be member of at least one subclass in the specialization.

Here USERS can be only one of the following category that is CUSTOMER or DRIVER or ADMIN



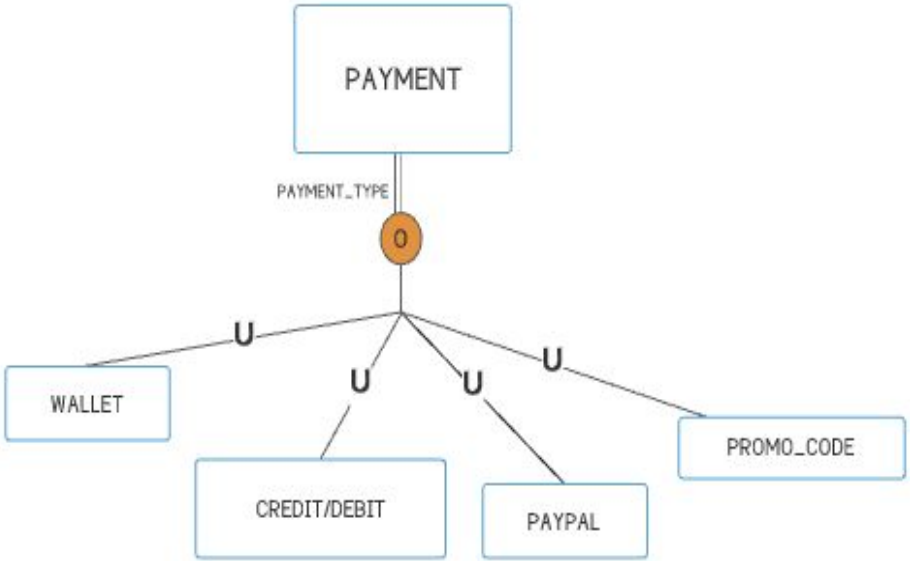
EER Model Explanation

Overlapping - Total Specialization

Overlapping Specialization means that an entity may be a member of ***more than one*** subclass of the specialization.

A **total specialization** constraint specifies that *every* entity in the superclass must be member of at least one subclass in the specialization.

Here PAYMENT can be done in more than one of the following category at a time that is through WALLET and CREDIT/DEBIT and PAYPAL and PROMO_CODE



Queries

Query

Joining the Restaurant and Cuisine table.

```
MariaDB [19577rs]> select * from RESTAURANT r inner join CUISINE c using (restaurant_id);
+---------------+-----------------+-----------------------------+-----------------+-------------+------------+---------+------------+-----------------+------------+-----------------+
| RESTAURANT_ID | RESTAURANT_NAME | E_MAIL                      | STREET_ADDRESS  | CITY        | STATE      | ZIPCODE | PHONE_NO   | OWNER           | CUISINE_ID | CUISINE_TYPE    |
+---------------+-----------------+-----------------------------+-----------------+-------------+------------+---------+------------+-----------------+------------+-----------------+
|             1 | Chaat Bhavan    | chaat_bhavan@gmail.com      | 5355 Mowry Ave  | Fremont     | California | 94538   | 5107951100 | Sreekar Shetty  |          1 | Indian          |
|             1 | Chaat Bhavan    | chaat_bhavan@gmail.com      | 5355 Mowry Ave  | Fremont     | California | 94538   | 5107951100 | Sreekar Shetty  |          2 | Chinese         |
|             2 | Curry Pizza House | currypizzahouse.com       | 39070 Fremont Blvd | Fremont  | California | 94539   | 5107967800 | Satish Kumar    |          3 | Italian         |
|             2 | Curry Pizza House | currypizzahouse.com       | 39070 Fremont Blvd | Fremont  | California | 94539   | 5107967800 | Satish Kumar    |          4 | Indian          |
|             2 | Curry Pizza House | currypizzahouse.com       | 39070 Fremont Blvd | Fremont  | California | 94539   | 5107967800 | Satish Kumar    |          5 | Mexican         |
|             3 | Panda Express   | pandaexpress.com            | 39429 Fremont Blvd | Fremont  | California | 94540   | 5106597917 | Anand Kapoor    |          6 | Chinese         |
|             3 | Panda Express   | pandaexpress.com            | 39429 Fremont Blvd | Fremont  | California | 94540   | 5106597917 | Anand Kapoor    |          7 | Korean          |
|             3 | Panda Express   | pandaexpress.com            | 39429 Fremont Blvd | Fremont  | California | 94540   | 5106597917 | Anand Kapoor    |          8 | Burmese         |
|             4 | India Garden    | www.indiagardenpleasanton.com | 210 Rose Ave    | Pleasanton  | California | 94566   | 9254854800 | Pankaj Singh    |          9 | South Indian    |
|             4 | India Garden    | www.indiagardenpleasanton.com | 210 Rose Ave    | Pleasanton  | California | 94566   | 9254854800 | Pankaj Singh    |         10 | North Indian    |
|             4 | India Garden    | www.indiagardenpleasanton.com | 210 Rose Ave    | Pleasanton  | California | 94566   | 9254854800 | Pankaj Singh    |         11 | Western Indian  |
+---------------+-----------------+-----------------------------+-----------------+-------------+------------+---------+------------+-----------------+------------+-----------------+
11 rows in set (0.001 sec)
```

Joining the Cuisine table and Item table where Restaurant Id is 1.

```
MariaDB [19577rs]> select r.RESTAURANT_NAME,c.CUISINE_TYPE,i.ITEM_NAME from RESTAURANT r inner join CUISINE c using (restaurant_id) inner join ITEM i using (CUISINE_ID) where r.RESTAURANT_ID=1;
+-----------------+--------------+---------------------+
| RESTAURANT_NAME | CUISINE_TYPE | ITEM_NAME           |
+-----------------+--------------+---------------------+
| Chaat Bhavan    | Indian       | Panner Butter Masala |
| Chaat Bhavan    | Indian       | Butter Naan         |
| Chaat Bhavan    | Chinese      | Spicy Hakka Noodles |
| Chaat Bhavan    | Chinese      | Masala Veg Noodles  |
+-----------------+--------------+---------------------+
4 rows in set (0.001 sec)
```

Joining the Cuisine table and Item table where Restaurant Id is in 1 and 2.

```
MariaDB [19577rs]> select r.RESTAURANT_NAME,c.CUISINE_TYPE,i.ITEM_NAME from RESTAURANT r inner join CUISINE c using (restaurant_id) inner join ITEM i using (CUISINE_ID) where r.RESTAURANT_ID in (1,2);
+-----------------+--------------+---------------------+
| RESTAURANT_NAME | CUISINE_TYPE | ITEM_NAME           |
+-----------------+--------------+---------------------+
| Chaat Bhavan    | Indian       | Panner Butter Masala |
| Chaat Bhavan    | Indian       | Butter Naan         |
| Chaat Bhavan    | Chinese      | Spicy Hakka Noodles |
| Chaat Bhavan    | Chinese      | Masala Veg Noodles  |
| Curry Pizza House | Italian    | Lasagne             |
| Curry Pizza House | Italian    | Margherita Pizza    |
| Curry Pizza House | Indian     | Kadai Panner        |
| Curry Pizza House | Indian     | Panner 65           |
| Curry Pizza House | Mexican    | Tacos               |
| Curry Pizza House | Mexican    | Spaghetti           |
+-----------------+--------------+---------------------+
10 rows in set (0.001 sec)
```

Queries

Query

Joining the Restaurant table, Cuisine Table and Item table. (Displaying the menu card of each restaurant)

```
MariaDB [19577rs]> select r.RESTAURANT_NAME,r.E_MAIL,r.STREET_ADDRESS,r.CITY,r.STATE,r.STATE,r.PHONE_NO,r.OWNER,c.CUISINE_TYPE,i.ITEM_NAME from RESTAURANT r inner join CUISINE c using (restaurant_id) inner join ITEM i using (CUISINE_ID);
```

RESTAURANT_NAME	E_MAIL	STREET_ADDRESS	CITY	STATE	STATE	PHONE_NO	OWNER	CUISINE_TYPE	ITEM_NAME
Chaat Bhavan	chaat_bhavan@gmail.com	5355 Mowry Ave	Fremont	California	California	5107951100	Sreekar Shetty	Indian	Panner Butter Masala
Chaat Bhavan	chaat_bhavan@gmail.com	5355 Mowry Ave	Fremont	California	California	5107951100	Sreekar Shetty	Indian	Butter Naan
Chaat Bhavan	chaat_bhavan@gmail.com	5355 Mowry Ave	Fremont	California	California	5107951100	Sreekar Shetty	Chinese	Spicy Hakka Noodles
Chaat Bhavan	chaat_bhavan@gmail.com	5355 Mowry Ave	Fremont	California	California	5107951100	Sreekar Shetty	Chinese	Masala Veg Noodles
Curry Pizza House	currypizzahouse.com	39070 Fremont Blvd	Fremont	California	California	5107967800	Satish Kumar	Italian	Lasagne
Curry Pizza House	currypizzahouse.com	39070 Fremont Blvd	Fremont	California	California	5107967800	Satish Kumar	Italian	Margherita Pizza
Curry Pizza House	currypizzahouse.com	39070 Fremont Blvd	Fremont	California	California	5107967800	Satish Kumar	Indian	Kadai Panner
Curry Pizza House	currypizzahouse.com	39070 Fremont Blvd	Fremont	California	California	5107967800	Satish Kumar	Indian	Panner 65
Curry Pizza House	currypizzahouse.com	39070 Fremont Blvd	Fremont	California	California	5107967800	Satish Kumar	Mexican	Tacos
Curry Pizza House	currypizzahouse.com	39070 Fremont Blvd	Fremont	California	California	5107967800	Satish Kumar	Mexican	Spaghetti
Panda Express	pandaexpress.com	39429 Fremont Blvd	Fremont	California	California	5106597917	Anand Kapoor	Chinese	Machuria
Panda Express	pandaexpress.com	39429 Fremont Blvd	Fremont	California	California	5106597917	Anand Kapoor	Chinese	Momos
Panda Express	pandaexpress.com	39429 Fremont Blvd	Fremont	California	California	5106597917	Anand Kapoor	Korean	Vegan Kimchi
Panda Express	pandaexpress.com	39429 Fremont Blvd	Fremont	California	California	5106597917	Anand Kapoor	Korean	Dumplings
Panda Express	pandaexpress.com	39429 Fremont Blvd	Fremont	California	California	5106597917	Anand Kapoor	Burmese	Tea Leaf Salad
Panda Express	pandaexpress.com	39429 Fremont Blvd	Fremont	California	California	5106597917	Anand Kapoor	Burmese	Tohu Thote
India Garden	www.indiagardenpleasanton.com	210 Rose Ave	Pleasanton	California	California	9254854800	Pankaj Singh	South Indian	Pulihora
India Garden	www.indiagardenpleasanton.com	210 Rose Ave	Pleasanton	California	California	9254854800	Pankaj Singh	South Indian	Payasam
India Garden	www.indiagardenpleasanton.com	210 Rose Ave	Pleasanton	California	California	9254854800	Pankaj Singh	North Indian	Moong Dal Halwa
India Garden	www.indiagardenpleasanton.com	210 Rose Ave	Pleasanton	California	California	9254854800	Pankaj Singh	North Indian	Badam Kheer
India Garden	www.indiagardenpleasanton.com	210 Rose Ave	Pleasanton	California	California	9254854800	Pankaj Singh	Western Indian	Kakra
India Garden	www.indiagardenpleasanton.com	210 Rose Ave	Pleasanton	California	California	9254854800	Pankaj Singh	Western Indian	Fafda

22 rows in set (0.001 sec)

Queries

Query

Joining the Users table and Driver Table.

```
MariaDB [19577rs]> select * from USERS u INNER JOIN DRIVER d using (USER_ID);
+---------+---------+---------+-----------------------+-----------------------------+---------+------------+-------------+-----------+-----------+--------+-----------+-----------+--------------+-------------+
| USER_ID | F_NAME  | L_NAME  | E_MAIL                | ADDRESS                     | ZIPCODE | PHONE_NO   | PASSWORD    | USER_TYPE | DRIVER_ID | GENDER | SSN       | DL_NUM    | SALARY_IN_$ | AVG_RATING |
+---------+---------+---------+-----------------------+-----------------------------+---------+------------+-------------+-----------+-----------+--------+-----------+-----------+--------------+-------------+
|       3 | Sherlock | Holmes | sherlock_holmes@gmail.com | 123 Belmont Way,Fresno,CA   | 93711   | 9876543213 | dsfasdf_456 | Driver    |         1 | M      | 123456789 | 43567283  |     50000.00 |           5 |
|       4 | Raj     | Kumar   | raj_kumar@gmail.com   | 304 Logan Street, Fremont,CA | 95438   | 4052180276 | gdserg_345  | Driver    |         2 | M      | 333444555 | 45667283  |     48000.00 |         4.7 |
+---------+---------+---------+-----------------------+-----------------------------+---------+------------+-------------+-----------+-----------+--------+-----------+-----------+--------------+-------------+
2 rows in set (0.001 sec)
```

Joining the Users table and Admin Table.

```
MariaDB [19577rs]> select * from USERS u INNER JOIN ADMIN a using (USER_ID);
+---------+---------+---------+-----------------------+-----------------------------+---------+------------+-------------+-----------+----------+--------+-----------+--------------+
| USER_ID | F_NAME  | L_NAME  | E_MAIL                | ADDRESS                     | ZIPCODE | PHONE_NO   | PASSWORD    | USER_TYPE | ADMIN_ID | GENDER | SSN       | SALARY_IN_$  |
+---------+---------+---------+-----------------------+-----------------------------+---------+------------+-------------+-----------+----------+--------+-----------+--------------+
|       5 | Siva    | Sai     | siva_sai@gmail.com    | 567 Stevenson Street, Santa Clara, CA | 97685 | 4052176743 | dgsthd@541 | Admin     |        1 | M      | 123123555 |     80000.00 |
|       6 | Emily   | Cortes  | emily_cortes@gmail.com | 789 Walnut Creek,Fremont,CA | 94538   | 4012363679 | dgserg@789  | Admin     |        2 | F      | 123123123 |     85000.00 |
+---------+---------+---------+-----------------------+-----------------------------+---------+------------+-------------+-----------+----------+--------+-----------+--------------+
2 rows in set (0.001 sec)
```

Joining the Users table and Customer Table.

```
MariaDB [19577rs]> select * from USERS u INNER JOIN CUSTOMER c using (USER_ID);
+---------+---------+---------+-----------------------+-----------------------------+---------+------------+-------------+-----------+-------------+
| USER_ID | F_NAME  | L_NAME  | E_MAIL                | ADDRESS                     | ZIPCODE | PHONE_NO   | PASSWORD    | USER_TYPE | CUSTOMER_ID |
+---------+---------+---------+-----------------------+-----------------------------+---------+------------+-------------+-----------+-------------+
|       2 | David   | Warner  | david_warner@gmail.com | 1401 Taylor Street,San Jose,CA | 95119 | 5012346791 | thanks@305 | Customer  |           1 |
|       1 | John    | Smith   | john_smith@gmail.com  | 456 Corriea Way,Fremont,CA  | 94538   | 1234569873 | qwerty@123  | Customer  |           2 |
+---------+---------+---------+-----------------------+-----------------------------+---------+------------+-------------+-----------+-------------+
2 rows in set (0.000 sec)
```

Queries

Query

Selecting the Users table where user type is Customer.

```
MariaDB [19577rs]> select * from USERS where USER_TYPE = 'Customer';
+---------+---------+---------+-------------------------+---------------------------------+---------+------------+------------+-----------+
| USER_ID | F_NAME  | L_NAME  | E_MAIL                  | ADDRESS                         | ZIPCODE | PHONE_NO   | PASSWORD   | USER_TYPE |
+---------+---------+---------+-------------------------+---------------------------------+---------+------------+------------+-----------+
|       1 | John    | Smith   | john_smith@gmail.com    | 456 Corriea Way,Fremont,CA      | 94538   | 1234569873 | qwerty@123 | Customer  |
|       2 | David   | Warner  | david_warner@gmail.com  | 1401 Taylor Street,San Jose,CA  | 95119   | 5012346791 | thanks@305 | Customer  |
+---------+---------+---------+-------------------------+---------------------------------+---------+------------+------------+-----------+
2 rows in set (0.001 sec)
```

Joining the Users table and Order Table.

```
MariaDB [19577rs]> select u.F_NAME, u.L_NAME,o.ORDER_DATE, o.ORDER_STATUS,o.AMOUNT_IN_$ from USERS u JOIN CUSTOMER c using (USER_ID) JOIN ORDERS o using (CUSTOMER_ID);
+--------+--------+------------+--------------+-------------+
| F_NAME | L_NAME | ORDER_DATE | ORDER_STATUS | AMOUNT_IN_$ |
+--------+--------+------------+--------------+-------------+
| David  | Warner | 04/16/2021 | Delivered    |          40 |
| John   | Smith  | 04/16/2021 | Ordered      |         120 |
+--------+--------+------------+--------------+-------------+
2 rows in set (0.001 sec)
```

Queries

Query

Joining the Users, Orders, Order Item, Item, Cuisine and Restaurant Table.

```
MariaDB [19577rs]> select u.F_NAME,u.L_NAME,r.RESTAURANT_NAME,cu.CUISINE_TYPE,i.ITEM_NAME,oi.PRICE_IN_$,oi.QUANTITY,o.ORDER_STATUS,o.ORDER_DATE,o.AMOUNT_IN_$ from USERS u JOIN CUSTOMER c using (USER_ID) JOIN ORDERS o using (CUSTOMER_ID) JOIN ORDER_ITEM oi using (ORDER_ID)
 JOIN ITEM i using(ITEM_ID) JOIN CUISINE cu using (CUISINE_ID) JOIN RESTAURANT r where r.RESTAURANT_ID=cu.RESTAURANT_ID;
+--------+--------+-----------------+--------------+-------------+------------+----------+--------------+------------+-------------+
| F_NAME | L_NAME | RESTAURANT_NAME | CUISINE_TYPE | ITEM_NAME   | PRICE_IN_$ | QUANTITY | ORDER_STATUS | ORDER_DATE | AMOUNT_IN_$ |
+--------+--------+-----------------+--------------+-------------+------------+----------+--------------+------------+-------------+
| David  | Warner | Panda Express   | Chinese      | Momos       |         10 |        2 | Delivered    | 04/16/2021 |          40 |
| David  | Warner | Panda Express   | Korean       | Vegan Kimchi|         20 |        1 | Delivered    | 04/16/2021 |          40 |
| John   | Smith  | Curry Pizza House | Italian    | Lasagne     |         20 |        3 | Ordered      | 04/16/2021 |         120 |
| John   | Smith  | Curry Pizza House | Indian     | Kadai Panner|         30 |        1 | Ordered      | 04/16/2021 |         120 |
| John   | Smith  | Curry Pizza House | Mexican    | Tacos       |         15 |        2 | Ordered      | 04/16/2021 |         120 |
+--------+--------+-----------------+--------------+-------------+------------+----------+--------------+------------+-------------+
5 rows in set (0.001 sec)
```

Joining the Users, Customer and Payment Table.

```
MariaDB [19577rs]> select u.F_NAME, u.L_NAME,p.PAYMENT_TYPE, p.AMOUNT_IN_$ from USERS u, CUSTOMER c, PAYMENT p where u.USER_ID=c.USER_ID and p.CUSTOMER_id = c.CUSTOMER_ID;
+--------+--------+--------------+-------------+
| F_NAME | L_NAME | PAYMENT_TYPE | AMOUNT_IN_$ |
+--------+--------+--------------+-------------+
| David  | Warner | CARD         |          40 |
| John   | Smith  | PAYPAL       |         120 |
+--------+--------+--------------+-------------+
2 rows in set (0.001 sec)
```

Joining the Users, Orders, Customer table where Order Status is Delivered.

```
MariaDB [19577rs]> select u.F_NAME, u.L_NAME,o.ORDER_DATE, o.ORDER_STATUS,o.AMOUNT_IN_$ from USERS u JOIN CUSTOMER c using (USER_ID) JOIN ORDERS o using (CUSTOMER_ID) where ORDER_STATUS = 'Delivered';
+--------+--------+------------+--------------+-------------+
| F_NAME | L_NAME | ORDER_DATE | ORDER_STATUS | AMOUNT_IN_$ |
+--------+--------+------------+--------------+-------------+
| David  | Warner | 04/16/2021 | Delivered    |          40 |
+--------+--------+------------+--------------+-------------+
1 row in set (0.001 sec)
```

References

https://www.doordash.com/

FUNDAMENTALS OF **Database Systems** SEVENTH EDITION,Ramez Elmasri and Shamkant B. Navathe.


THANK
YOU