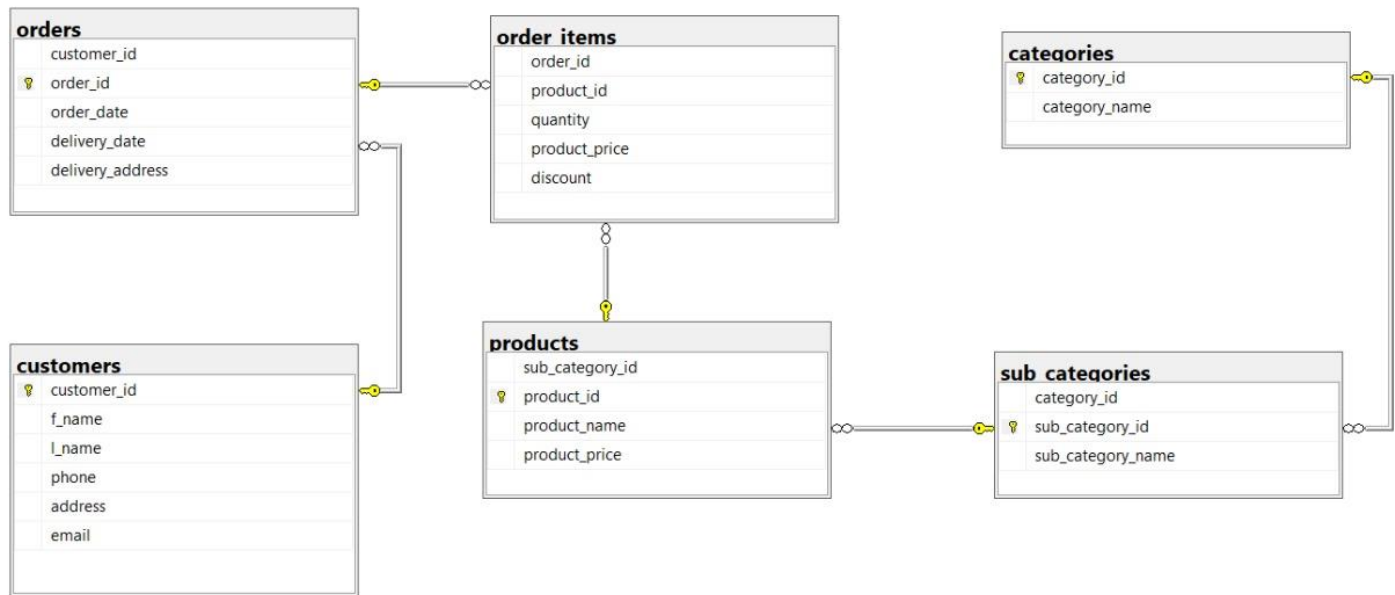# ER Diagram:

Codes (SQL Server):

Creating database

-> (online market)

```sql
create database Online_Market;
```

Creating tables

-> (customers-categories-subcategories-products-orders-orderitems)

```sql
CREATE TABLE customers (
    customer_id INT IDENTITY (1, 1) PRIMARY KEY,
    f_name VARCHAR (25) NOT NULL,
    l_name VARCHAR (25) NOT NULL,
    phone VARCHAR (25) NOT NULL,
    address VARCHAR (50) NOT NULL,
    email VARCHAR (50) NOT NULL);
CREATE TABLE categories (
    category_id INT IDENTITY (1, 1) PRIMARY KEY,
    category_name VARCHAR (50) NOT NULL);
CREATE TABLE sub_categories (
    category_id INT not null,
    sub_category_id INT IDENTITY (1, 1) PRIMARY KEY,
    sub_category_name VARCHAR (50) NOT NULL,
    FOREIGN KEY (category_id) REFERENCES categories (category_id) ON DELETE CASCADE ON UPDATE
    CASCADE);
CREATE TABLE products (
```

> Use identity to let the columns starts by 1 and increment by 1 automatically

```sql
        sub_category_id INT NOT NULL,
        product_id INT IDENTITY (1, 1) PRIMARY KEY,
        product_name VARCHAR (255) NOT NULL,
        product_price DECIMAL (10, 2) NOT NULL,
        FOREIGN KEY (sub_category_id) REFERENCES sub_categories (sub_category_id) ON DELETE CASCADE ON
        UPDATE CASCADE);
CREATE TABLE orders (
        customer_id INT,
        order_id INT IDENTITY (1, 1) PRIMARY KEY,
        order_date DATE NOT NULL,
        delivery_date DATE,
        delivery_address VARCHAR (50) NOT NULL,
        FOREIGN KEY (customer_id) REFERENCES customers (customer_id) ON DELETE CASCADE ON UPDATE
        CASCADE);
CREATE TABLE order_items (
        order_id INT,
        product_id INT NOT NULL,
        quantity INT NOT NULL,
        product_price DECIMAL (10, 2) NOT NULL,
        discount DECIMAL (4, 2) NOT NULL DEFAULT 0,
        FOREIGN KEY (order_id) REFERENCES orders (order_id) ON DELETE CASCADE ON UPDATE CASCADE,
        FOREIGN KEY (product_id) REFERENCES products (product_id) ON DELETE CASCADE ON UPDATE CASCADE);
```

Insert into

-> (insert data into the previous tables)

```sql
INSERT INTO customers (f_name,l_name,phone,address ,email)
VALUES('aaseema','Hashci',0230063, '3rd Industrial Zone, Unit 3C','Hashmi@gmaicl.com')
    ,('Suhail','Mahfouz', 027608667 ,'10 El-Genena St, Sour El-Azbakeya Ataba','Mahfouz@gmail.com')
    ,('Antonio','Rahim', 025693341 ,'Evergreen Tower 10 Talaat Harb St, 1st Floor','Rahim@gmail.com')
    ,('Thomas','Youssef', 028640030 ,'El-Abour Bldgs 35 Salah Salem Rd, Flat 8','Youssef@gmail.com')
    ,('Anwar','Shaban', 022562558 ,'10 Tantawy Gohary St, Sayda Zeinab','Shaban@gmail.com')
    ,('Hanna','Abdelnour', 027497012 ,'Khalil Ibrahim St, KEBAA CITY','Abdelnour@gmail.com')
    ,('Shaban','Mohammadi', 025850358 ,'El-Ghoury and Kisra St, PORT SAID','Mohammadi@gmail.com')
    ,('Munir','Kareem', 023912042 ,'682 El-Horreya Rd, Loran','Kareem@gmail.com')
     ,('Khuld','Ansari', 026172554 ,'32 Ahmed Hamdy St, Madkour','Ansari@gmail.com')
     ,('Raja','Sayed', 023927769 ,'Obour Bldgs 17A Salah Salem, NASR CITY','Sayed@gmail.com')
     ,('Mouhamed','Ahmed', 028593694 ,'32 Abdel Khalek Tharwat St','hamada@gmail.com')
    ,('Farouk','Maher', 028493560 ,'Orman Tower 48 Giza St., GIZA','gglol@gmail.com')
    ,('Adham','zenhom', 029837562 ,'63 street 15 maadi,cairo','yoloeqeqeq@gmail.com')
    ,('Hamada','Mustafa', 025647380,'119 Misr Helwan Agricultural','hamada123@gmail.com')
     ,('Eslam','Mohab', 029376584 ,'185 El Sherouk City ','hhhh135@gmail.com');
insert into categories (category_name)
values('FOOD CUPBOARD')
    , ('BEVERAGES')
    , ('LAUNDRY')
    , ('HOUSEHOLD CLEANING');
insert into sub_categories (category_id,sub_category_name)
values(1,'Grains and Rice')
    , (1,'Pasta and Noodles')
    , (1,'Cooking Oil')
    , (1,'Vinegar')
    , (1,'Sauce')
    , (1,'Sugars and Sweeteners')
    , (1,'Flour')
    , (1,'Herbs and Spices')
    , (1,'Antipasto')
    , (1,'Beans and Peas')
    , (1,'Vegetables')
    , (1,'Meat')
    , (1,'Cereal')
    , (1,'Breakfast Biscuits and Cookies')
```

```sql
        , (1,'Jams and Sweet Spreads')
        , (1,'Candy and Chocolate')
        , (1,'Crisps and Chips')
        , (1,'Nuts and Seeds')
        , (2,'Juices')
        , (2,'Soft Drinks')
        , (2,'hot Drinks')
        , (2,'Water')
        , (2,'Powdered Drink Mixes and Flavorings')
        , (3,'Liquid Detergent')
        , (3,'Powder Detergent')
        , (3,'Fabric Softener')
        , (3,'Stain Removal')
        , (3,'Bleach')
        , (4,'Dishwashing')
        , (4,'Air Fresheners')
        , (4,'Kitchen Cleaners')
        , (4,'Bathroom Cleaners')
        , (4,'Floor Cleaners')
        , (4,'Glass Cleaners')
        , (4,'Disinfectants')
        , (4,'Cleaning Tools')
        , (4,'Paper and Plastic');
INSERT INTO products (sub_category_id,product_name,product_price)
VALUES
 (1,'Abu Auf Flax Seeds - 450Gm',26.90),
 (1,'Aldoha Oriental Rice – 540gm', 37.25),
 (1, 'Zamzam White Beans - 500 gm', 23.95),
 (2, 'Gawaher Big Rings Pasta - 350g', 4.90),
 (2, 'El Maleka Penne Pasta - 400g', 8.00),
 (2, 'Italiano Spaghetti Pasta - 400g', 11.80),
 (3, 'AL Asil Corn Oil - 750 Ml', 50.00),
 (3, 'Crystal Corn Oil - 0.75 Liter', 52.90),
 (3, 'Haloub Al Missalia Pure Ghee - 800g', 151.00),
 (4, 'Al Tawoos Natural Vinegar - 900 Ml', 9.00),
 (4, 'Rehana Natural Vinegar - 1 Liter', 7.95),
 (4, 'Ahla Seha Apple Natural Vinegar - 270Ml', 30.00),
 (5, 'Mero Box Of 250 Sachet Ketchup - 7 Gm', 65.00),
 (5, 'Mero Ketchup Premium - 340 Gm + Mayonnaise Premium 320ml', 40.00),
 (5, 'Mero Mayonnaise - 5Kg', 160.00),
 (6, 'Clover Honey 500 Grams - Vitablend', 85.00),
 (6, 'shana Nawara Squeeze Honey - 950 G', 90.00),
 (6, 'Ahla Seha Nawara Clover Honey - 865 Gm', 80.00),
 (7, 'Dobella Biscuit Flour 1kg', 29.00),
 (7, 'Five Stars Dumpling Flour - 1 kg', 22.00),
 (7, 'Five Stars Pancake Flour - 1 kg', 24.00),
 (8, 'shana Cumin Powder - 90 GM', 20.00),
 (8, 'YARU Natural Dried Crushed Garlic - 50gm', 37.00),
 (8, 'Aldoha Cumin Powder - 100g', 19.00),
 (9,  'Dobella Pickled Mexican Pepper – 370 ml', 15.00),
 (9,  'Dobella Pickled lemon – 370 gm', 15.00),
 (9,  'Besto Food Natural Pickled Black Olives – 370gm', 23.00),
 (10, 'Zamzam Yellow Lentils - 500 gm', 23.00),
 (10, 'Morspice Falafel 250 Gm', 30.00),
 (10, 'Food Boiled Chickpeas 3 Kg', 65.00),
 (11, 'YARU Natural Dried Green Spinach Bag- 50gm', 37.00),
 (11, 'Food Easy Open Mushroom Pieces & Silces - 400 G', 30.00),
 (12, 'Arlequin Pickled Mussels With Red Sauce - 69g', 24.00),
 (12, 'Founty Hot Moroccan Sardine Fish', 20.00),
 (13, 'Lino Rice Crisp - 250 gm', 32.00),
 (13, 'Nesquik Cereal Cocoa Crush - 360gm', 50.00),
 (13, 'Lino Choco Scopes - 250 gm', 38.00),
 (14, 'Bisco Misr Plain Kahk - 1 kg', 126.00),
 (15, 'Maxtella White Chocolate Spread - 950 Gm', 80.00),
```

```sql
    (15, 'shana Cocoa Butter Raw - 150 GM', 71.00),
    (15, 'ADD-ME Fig Jam - 360g', 10.00),
    (16, 'Cadbury Dairy Milk Mini Hazelnut Chocolate - 168 gm', 64.95),
    (16, 'Mythic Hazelnut Chocolate 80 G 2pcs', 48.00),
    (16, 'Kit Kat Chunky Lotus Chocolate Bars - 24 Pcs', 356.00),
    (17, 'Break Hot Chili Snacks 21-24 gm - Pack of 12 Pcs', 23.00),
    (17, 'Lion Salt Potato Chips - 42-32 gm - Pack of 12 Pcs', 35.75),
    (17, 'Lion Vinegar & Salt Potato Chips - 68-58 gm - Pack of 10 Pcs', 50.00),
    (18, 'Al Muqila Aswani Peanuts - 250gm', 44.00),
    (18, 'Nabtah Quinoa Seeds - 500gm', 105.00),
    (18, 'Abu Auf Salted Pistachio - 100 gm', 56.00),
    (19, 'Love-it Cocktail Juice - 250ml', 3.00),
    (19, 'Love-it Mango Juice - 250ml', 4.00),
    (19, 'Love-it Apple Juice - 250ml', 3.00),
    (19, 'Frooti Nectar Mango Juice - 1 Liter', 19.00),
    (20, '7 Up Plastic Bottle – 0.97 Liter - 6 PCs', 64.00),
    (20, 'Schweppes Peach Cans – 330 Ml – 24', 114.00),
    (21, 'Garnet Turkish Coffee Medium Flavoured With Cardamom 250G', 90.00),
    (21, 'Blue Tea Pot Fine Black Tea - 40 gm', 4.50),
    (21, 'shana Celery & Parsley Tea - 75 GM.', 33.00),
    (22, 'Flo Water - 1.25L - Set Of 9', 81.00),
    (22, 'Flo Water - 600ml - Set Of 12', 78.00),
    (22, 'Pearl Natural Water - 250 ml', 5.00),
    (23, 'Tang Instant Mango Flavoured Drink - 450 gm', 30.00),
    (23, 'Tang Juice with Orange Flavor- 25 gm - 12 pcs', 58.00),
    (23, 'Tang Tropical Juice Powder – 25gm – 12 PCs', 47.00),
    (24, 'Comfort Flora Soft - 2L', 58.00),
    (24, 'Ariel Liquid clean and fresh detergent 3.3 Kilogram', 122.00),
    (24, 'IGel-Power Gel Liquid Laundry Detergent-Front & Top Load 2 Litrer', 75.00),
    (25, 'Ariel Powder Touch of Downy Detergent 7 Kilogram', 254.00 ),
    (25, 'ABC Egypt Automatic Powder Detergent - 4 Kg', 89.00 ),
    (26, 'Comfort Pink Liquid Softener - 1L', 38.00 ),
    (26, 'Comfort Fabric Softner Flora Soft Pink 3L', 79.00 ),
    (27, 'Vanish Vanish Laundry Stain Remover Liquid for White Colored Clothes', 60.00 ),
    (27, 'Velveta Stain Remover – 700ml', 35.00 ),
    (28, 'Clorel 4x1 Lemon Scented Cleaning Bleach - 1kg', 13.00 ),
    (28, 'Clorel 2x1 Lavender Scented Bleach - 2kg', 23.00 ),
    (29, 'Finish Dishwasher Detergent Tablets, Quantum 21 tablets ', 157.00 ),
    (29, 'Sheen Dish Washing Liquid -Green Lemon - 750ml', 16.00 ),
    (30, 'Home Freshener, Multi Purpose, Blue, 250ml, CN50, Peach', 14.00 ),
    (30, 'Turbo Mood Air Freshener-pomegranate-500 Ml', 25.00 ),
    (31, 'Dettol Healthy Bathroom Power Cleaner Spray, 500ml ', 84.00 ),
    (31, 'ABC Egypt THE TOUGHEST GREASE REMOVER Multicolour 550ml', 22.00 ),
    (32, 'Harpic Original Toilet Cleaner – 700ml', 51.00 ),
    (32, 'Harpic Harpic Active Fresh Lavender Toilet Cleaner Rim Block, Value Pack', 37.00 ),
    (33, 'Veroza Guard Disinfection Floors 500 ML', 33.00 ),
    (33, 'Brix Lemon Floor Cleaner - 3 L', 60.00 ),
    (34, 'Cleaner Brush Strong Magnetic Glass Brush', 1536.00 ),  (34, 'Glass Wiper 2×1 Spray', 50.00 ),
    (35, 'Dettol Antiseptic Liquid Cleaner - 235', 33.00 ),
    (35, 'ISafe Disinfectant & General Cleaner - 2x500ml ', 52.00 ),
    (36, 'Super Absorbent Kitchen Towel - 12 Pcs', 30.00 ),
    (36, 'Silicone Dish Washing Sponge Scrubber', 45.00 ),
    (37, 'Foam Large Plates - 100 Pcs', 70.00 ),
    (37, 'Sanita White Facial Tissue - 200 Tissues', 8.00 );


insert into orders (customer_id,order_date,delivery_date,delivery_address)
values(5,'2021-11-1','2021-11-3','3rd Industrial Zone 10 of ramadan')
    , (2,'2021-11-4','2021-11-9', '10 El-Genena St El-Ataba')
    , (2,'2021-11-5','2021-11-10','10 El-Genena St El-Ataba')
    , (3,'2021-11-6','2021-11-11','10th Talaat Harb St')
    , (5,'2021-11-8','2021-11-13','Ismaileya Sq Heliopolis')
    , (6,'2021-11-10','2021-11-15','10 Tantawy Gohary St Sayda Zeinab')
    , (6,'2021-11-10','2021-11-15','10 Tantawy Gohary St Sayda Zeinab')
    , (6,'2021-11-10','2021-11-15','10 Tantawy Gohary St Sayda Zeinab')
```

```sql
     , (8,'2021-11-13','2021-11-23','Industrial Zone, Damietta')
     , (8,'2021-11-13','2021-11-16','682 El-Horreya Rd, alexandria')
     , (9,'2021-11-15','2021-11-20','32 Ahmed Hamdy St, Madkour')
     , (10,'2021-11-18','2021-11-21','Obour bulidings 17A Salah Salem')
     , (10,'2021-11-19','2021-11-22','Obour bulidings 17A Salah Salem')
     , (11,'2021-11-20','2021-11-25','9 El-Tayaran St., Nasr City')
     , (13,'2021-11-21','2021-11-26','63 street 15 maadi,cairo')
     , (13,'2021-11-21','2021-11-26','63 street 15 maadi,cairo')
      , (13,'2021-11-21','2021-11-26','63 street 15 maadi,cairo')
     , (13,'2021-11-21','2021-11-26','63 street 15 maadi,cairo')
     , (13,'2021-11-21','2021-11-26','63 street 15 maadi,cairo')
     , (14,'2021-11-23','2021-11-28','119 Misr Helwan ,42 maadi')
     , (14,'2021-11-23','2021-11-28','78 Arimed Forces Bldgs Sidi Bishr')
     , (14,'2021-11-23','2021-11-28','78 Arimed Forces BldgsSidi Bishr')
     , (15,'2021-11-25','2021-11-30','185 El Sherouk City NASR CITY')
     , (15,'2021-11-27','2021-11-30','185 El Sherouk City NASR CITY')
     , (15,'2021-11-27','2021-11-30','185 El Sherouk City NASR CITY');
insert into order_items (order_id,product_id,quantity,product_price,discount)
values(1,1,2,25,0)
       , (1,5,5,5,0)
     , (2,5,1,15,0)
     , (2,10,3,20,15)
     , (2,3,10,25,20)
     , (3,2,4,80,0)
     , (4,7,7,70,0)
     , (5,8,2,100,0)
     , (6,2,3,80,0)
     , (7,10,8,20,10)
     , (8,6,9,35,0)
     , (9,9,6,22,15)
     , (10,4,5,150,30)
     , (11,11,1,45,0)
     , (12,12,4,69,40)
     , (13,7,3,70,0)
     , (14,14,4,200,55)
     , (15,14,3,200,55)
     , (16,13,6,66,33)
     , (17,15,5,90,0)
     , (18,13,8,66,33)
     , (19,5,3,15,0)
     , (20,9,9,22,11)
     , (21,14,1,200,55)
     , (22,10,4,20,10)
     , (23,10,1,300,90)
     , (24,10,4,70,30)
     , (24,10,8,64,0)
     , (25,10,1,50,20);
```

Queries:

Alter

-> (use alter to add column in a table)
```sql
alter table customers
add Birth_date date;
```

-> (use alter to change datatype of a column in table)
```sql
ALTER TABLE customers
ALTER column Birth_date date;
```

-> (use alter to drop a column in table)
```sql
ALTER TABLE customers
drop column Birth_date;
```

Update

-> (use update to change data in table)

```
update order_items set discount = 10 where product_id=1;
update products set product_price = 95 where product_id=5;
```

Delete

-> (use delete to remove data in table)

```
DELETE FROM Customers WHERE f_name='Suhail';
```

Select

-> (use select to display all data from certain table)

```
select * from products;
```

-> (use select to display data from few columns within certain table)

```
select product_name,product_price from products;
```

-> (use select to display specific data from table)

```
select product_name,product_price from products
where product_price>20 and product_price<30;
```

-> (use select to display ordered data from a table)

```
select * from products
order by product_price desc;
```

-> (use select and aggregated functions to display data from a table)

```
select count(customer_id) as 'number of customers'from customers;
select avg(product_price) as 'average of bill price'from order_items
group by order_id;
select min(discount) as 'lowest discount' from order_items;
select max(discount) as 'highest discount' from order_items;
```

-> (use select display the price of product after discount from a table)

```
select (product_price - (product_price * discount /100 ) )as 'price after discount'
from order_items;
```