A Documentation on

E-Commerce Platform

Project-17

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For the course
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ANTI-PLAGIARISM STATEMENT

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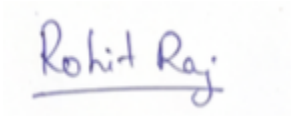


Functional Dependencies and Conversion to 3NF

ER Diagram has been constructed not so naively so as to take care of the dependencies, but to explain reduction if product in itself were to have the seller details, a transitive dependency is observed as:

Product_id -> seller_id -> seller_name

Product_id -> seller_id -> seller_email

Primary key determines the rest of the dependencies in other tables, so they're already in the Third Normal Form.

Review_id -> review_date, comments, rating
Payment_id -> amt_paid, payment_status, payment_date
shipping_id->shipping_address,shipping_status,delivery_date,shipping date
and so on for other tables which are already in 3NF form.

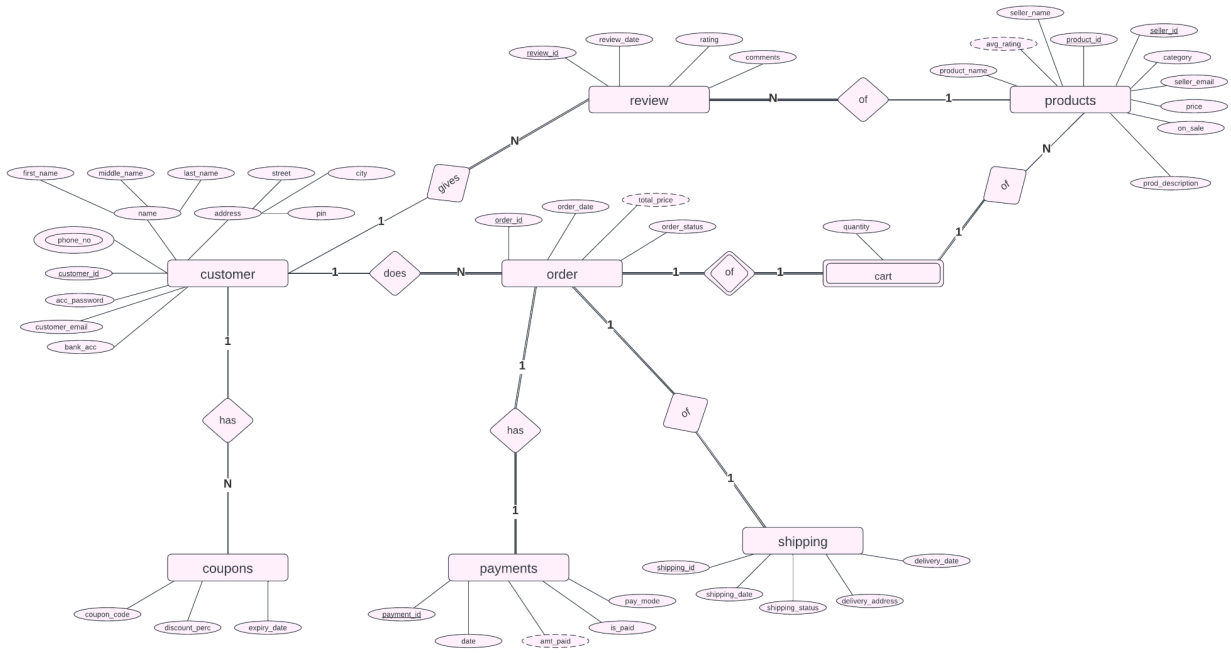
Product
product_id
product_name
prod_description
avg_rating
seller_id
seller_name
seller_email

To remove these transitive dependencies and to convert into Third Normal Form, we may reduce as follows:

Seller
seller_id
seller_name
seller_email

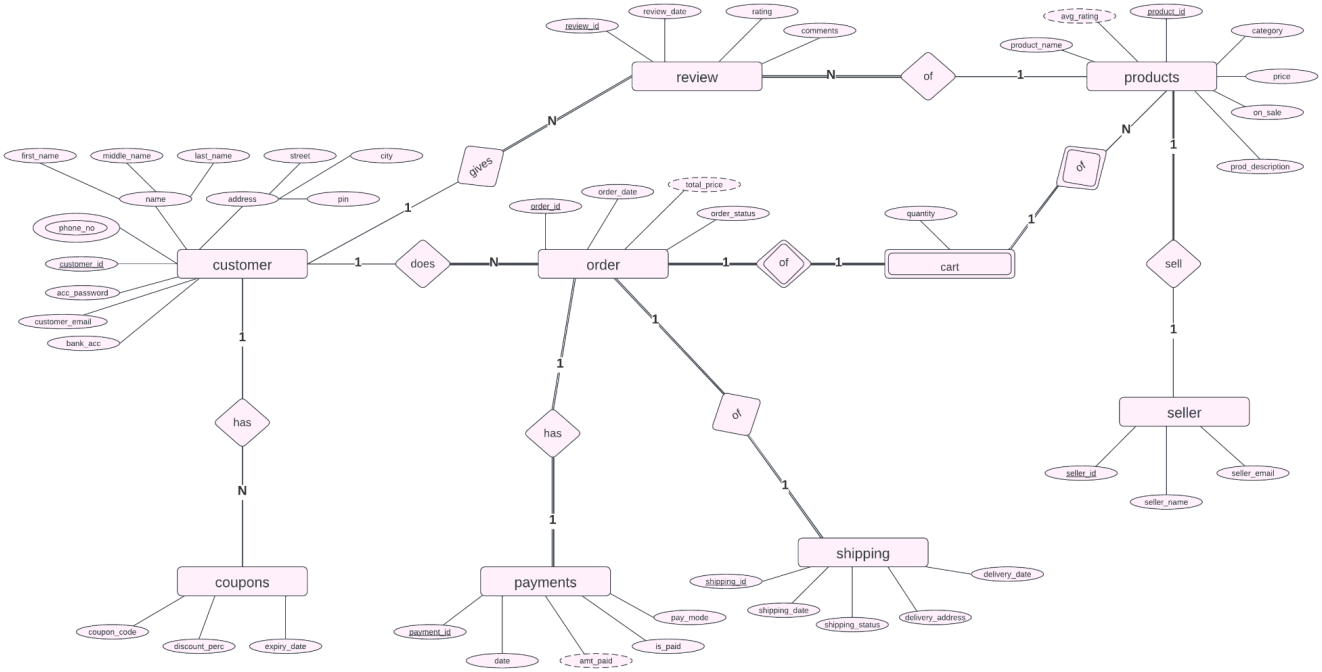
Product
product_id
product_name
prod_description
avg_rating

ER Diagram not in 3NF



ER Diagram after reduction to 3NF form

After reducing the ER Diagram should look like**:**



The entities(then, tables) have been explained in detail later in the document.

From the above diagram, we can infer the following company requirements(hence, the relations) and/or the assumptions considered in the design.:

1) One customer can give multiple reviews. “Reviews” has total participation which means that “Reviews” cannot exist without a customer.
2) One customer can have multiple coupons and there is no total participation with either of the entities.
3) One customer can place multiple orders and “orders” has total participation with the “does” relationship. It means that an order must have a customer but the reverse is not true.
4) One order has only one payment and both have total participation with the relationship “has” i.e., a payment must have an order and vice-versa.
5) One order can have only one shipping and both have total participation with the relationship “of” i.e., a shipping must have an order and vice-versa.

6) The “cart” entity, itself being weak, shares two weak relationships with “products” and “ orders”. The order_id (excerpted from orders) and the product_id(excerpted from products) will serve as the primary key in the cart table. “quantity” serves as the discriminator. “cart “ and “order” share 1:1 relationship with total participation on both ends and shares 1:N relationship with “products” with total participation on “cart” end (cart must have products).
7) Each product is sold by a single seller on the platform. Therefore, there is a one to one relationship(“sell”) between “products” and “seller”. A product must have a seller but not vice-versa.
8) One product can have multiple reviews. A product can exist without a review but a review cannot exist without a product. Hence, justifying the total participation of review with the relationship “of”.
9) The derived attributes in the table are avg_rating in the product table, total_price in the orders table and amt_paid in the payments table which is calculated after applying coupon provided that the customer has it.

Table Descriptions

The Customers table has columns for customer information such as customer_id (unique identifier for each customer), first_name, mid_name (middle name), last_name, customer_email (unique email address for each customer), acc_password (password for customer's account), street, city, bank_acc (bank account number of the customer), and pin (6-digit integer representing the customer's PIN number). We inserted ten records in the table.

The table is shown below:-

customer_id	first_name	mid_name	last_name	customer_email	acc_password	street	city	bank_acc	pin
1	Samarth	Kumar	Nair	samarthnair@gmail.com	password1234	MG Road	Pune	9855 5625 1515	411001
2	Aarav	Kumar	Verma	aaravverma@gmail.com	p@ssword123	Gandhi Road	Mumbai	5455 5625 1515	400001
3	Aditi	Singh	Yadav	aditisingh@gmail.com	my$ecurep@ss	Saket Road	New Delhi	5432 5625 1515	110017
4	Akshay	Raj	Sharma	akshaysharma@gmail.com	p@$$word321	MG Road	Bengaluru	5489 5625 1515	560001
5	Anjali	Gupta	Shukla	anjalishukla@gmail.com	pa$$word456	Rajpath	New Delhi	5455 5625 1985	110001
6	Ishaan	Singh	Patel	ishaanpatel@gmail.com	mynewp@ssword	Malabar Hill	Mumbai	5455 8425 1515	400006
7	Jhanvi	Mehta	Kapoor	jhanvikapoor@gmail.com	p@s	City Road	Mumbai	5455 5535 1515	400065
8	Kabir	Singh	Bhalla	kabirbhalla@gmail.com	newp@ssword!234	Ashok Nagar	Chennai	6355 5625 1515	600083
9	Kavya	Reddy	Nair	kavyanair@gmail.com	myp@ssword2023	Kochi Bypass	Kochi	9455 5651 1515	682024
10	Riya	Shah	Patil	riyapatil@gmail.com	p@$$word4321	Pedder Road	Mumbai	5455 1651 1515	400026

The Coupons table has columns for coupon information such as coupon_code (unique identifier for each coupon), discount_perc (discount percentage for each coupon), customer_id (foreign key referencing the customer who owns the coupon), and expiry_date (the date when the coupon expires). We inserted ten records in the table.

The table is shown below:-

coupon_code	discount_perc	customer_id	expiry_date
COUPON01	0.2	1	2023-12-31
COUPON02	0.25	2	2024-01-31
COUPON03	0.33	3	2024-02-28
COUPON04	0.4	4	2024-03-31
COUPON05	0.12	5	2024-04-30
COUPON06	0.23	6	2024-05-31
COUPON07	0.35	7	2024-06-30
COUPON08	0.22	8	2024-07-31
COUPON09	0.4	9	2024-08-31
COUPON10	0.1	10	2025-09-30

The Seller table has columns for seller information such as seller_id (unique identifier for each seller), seller_name, and seller_email (unique email address for each seller).We inserted ten records in the table.

The table is shown below:-

seller_id	seller_name	seller_email
3	Tata	tata@gmail.com
9	Bajaj	bajaj@gmail.com
15	TCS	tcs@gmail.com
25	Mahindra	mahindra@gmail.com
31	Bharti Airtel	airtel@gmail.com
44	Godrej	godrej@gmail.com
50	Infosys	infosys@gmail.com
60	Hindustan Unilever	hindustanunilever@gmail.com
77	Reliance	reliance@gmail.com
91	Wipro	wipro@gmail.com

The Products table has columns for product information such as product_id (unique identifier for each product), seller_id (foreign key referencing the seller who sells the product), avg_rating (average rating for the product), product_name, price, category, on_sale (boolean value representing whether the product is on sale or not), and prod_description (a text description of the product).Initially, the average rating of all the products is set to null.It will be updated once the reviews are given by the customers. We inserted records in the table.
The table is shown below:-

product_id	seller_id	avg_rating	product_name	price	category	on_sale	prod_description
1	3	NULL	Tata Safari	1500000.00	Automobile	1	A stylish and comfortable SUV.
2	25	NULL	Mahindra XUV500	1400000.00	Automobile	0	A feature-rich SUV with advanced safety featur...
3	9	NULL	Bajaj Pulsar 150	100000.00	Two Wheeler	1	A powerful and efficient bike.
4	77	NULL	JioPhone Next	5000.00	Smartphone	1	An affordable smartphone with 4G connectivity.
5	44	NULL	Godrej Aer Click	249.00	Air Freshener	1	A refreshing fragrance with easy-to-use click m...
6	60	NULL	Surf Excel Easy Wash	225.00	Laundry Detergent	1	A detergent specially designed for top load was...
7	50	NULL	Infosys Nia	500000.00	Artificial Intelligence	0	A platform for enterprise-grade AI applications.
8	15	NULL	TCS BaNCS	1000000.00	Banking Software	0	comprehensive suite of banking solutions.
9	91	NULL	Wipro Lighting	1500.00	LED Bulbs	1	An energy-efficient LED bulb for home lighting.
10	31	NULL	Airtel Xstream	499.00	OTT Platform	1	A subscription-based streaming service with a w...

The Customer_phone table has columns for phone numbers associated with each customer, with columns for customer_id (foreign key referencing the customer who owns the phone number) and phone_no (the phone number associated with the customer). We inserted records in the table.
The table is shown below:-

customer_id	phone_no
1	912345678901
1	922345678902
2	932345678903
3	942345678904
3	952345678905
3	962345678906
4	972345678907
5	982345678908
5	992345678909
6	912345678910
7	922345678911
7	932345678912
8	942345678913
9	952345678914
9	962345678915
10	972345678916

The Reviews table is not fully defined, but it likely contains columns for review information such as review_id (unique identifier for each review), product_id (foreign key referencing the product being reviewed), customer_id (foreign key referencing the customer who wrote the review), and review_text (the text of the review). We inserted records in the table.
The table is shown below:-

review_id	customer_id	comments	rating	review_date	product_id
3	3	Smooth ride and good mileage	4	2022-03-20	3
4	4	Affordable and feature-packed	3	2022-03-21	4
5	5	Refreshing fragrance	4	2022-03-22	5
6	6	Cleans clothes well	4	2022-03-25	6
7	7	Powerful AI platform	4	2022-03-26	7
8	8	Comprehensive banking solutions	4	2022-03-28	8
9	9	Good bulb for home lighting	3	2022-03-30	9
10	10	Great streaming service	4	2022-03-31	10
11	1	Comfortable and spacious	4	2022-04-01	2
12	2	Feature-ric	4	2022-04-02	2
13	3	Powerful bike with good looks	4	2022-04-05	3
14	4	Decent phone for the price	3	2022-04-06	4
15	5	Long-lasting fragrance	4	2022-04-07	5
16	6	Effective detergent for top load ...	4	2022-04-10	6
17	7	Easy-to-use AI platform	4	2022-04-11	7
18	8	Powerful banking software	4	2022-04-12	8
19	9	Bright and energy-efficient bulb	4	2022-04-15	9
20	10	Good collection of movies and sh...	4	2022-04-16	10

Comfortable and spacious

The products table is now updated as per the reviews.The updated products table is shown below:-

product_id	seller_id	avg_rating	product_name	price	category	on_sale	prod_description
1	3	4	Tata Safari	1500000.00	Automobile	1	A stylish and comfortable SUV.
2	25	4	Mahindra XUV500	1400000.00	Automobile	0	A feature-rich SUV with advanced safety featur...
3	9	4	Bajaj Pulsar 150	100000.00	Two Wheeler	1	A powerful and efficient bike.
4	77	3	JioPhone Next	5000.00	Smartphone	1	An affordable smartphone with 4G connectivity.
5	44	4	Godrej Aer Click	249.00	Air Freshener	1	A refreshing fragrance with easy-to-use click m...
6	60	4	Surf Excel Easy Wash	225.00	Laundry Detergent	1	A detergent specially designed for top load was...
7	50	4	Infosys Nia	500000.00	Artificial Intelligence	0	A platform for enterprise-grade AI applications.
8	15	4	TCS BaNCS	1000000.00	Banking Software	0	A comprehensive suite of banking solutions.
9	91	3.5	Wipro Lighting	1500.00	LED Bulbs	1	An energy-efficient LED bulb for home lighting.
10	31	4	Airtel Xstream	499.00	OTT Platform	1	A subscription-based streaming service with a w...

The orders table has the following column:-
customer_id: an integer value that references the customer_id column in the Customers table. This column is used to associate each order with a specific customer.
order_id: an integer value that serves as the primary key for this table. Each order in the table has a unique order_id
total_price: This column stores the total price of each order.
order_status: a string value with a maximum length of 20 characters. This column stores the status of each order (e.g. "pending", "shipped", "delivered", etc.).
order_date: a date value that stores the date on which each order was placed.

The Orders table is used to store information about customer orders, including the customer who placed the order, the total price of the order, the order status, and the order date. The customer_id column is a foreign key that allows us to link each order to a specific customer in the Customers table. The order_id column serves as the primary key for this table and ensures that each order has a unique identifier.

Orders table stores the orders by different customers having different statuses for eg., canceled, in cart, delivered, placed, etc. with "in cart" serving as the cart for an individual customer

The table after value insertion is given below:-

customer_id	order_id	total_price	order_status	order_date
3	8	800000.00	delivered	2023-01-20
1	12	7500000.00	cancelled	2023-01-01
9	16	10500.00	delivered	2023-03-28
10	19	2004990.00	cancelled	2023-04-06
2	23	4300000.00	ongoing	2023-01-10
4	24	15000.00	cancelled	2023-02-05
5	34	2801494.00	ongoing	2023-02-14
8	35	10000747.00	ongoing	2023-03-19
7	42	2000000.00	cancelled	2023-03-10
10	55	200000.00	in cart	2023-04-26
6	69	225.00	delivered	2023-02-23

The Cart table has three columns: quantity (an integer representing the quantity of a particular product in the cart), product_id (an integer representing the ID of the product), and order_id (an integer representing the ID of the order to which the product belongs). It also includes two foreign key constraints, product_id and order_id, which reference the Products and Orders tables respectively.

Cart serves to keep track of the different products that have been ordered till present. (Not the typical cart for a customer, as explained above)

quantity	product_id	order_id
5	1	12
2	2	23
1	1	23
8	3	8
3	4	24
6	5	34
2	2	34
1	6	69
4	7	42
1	8	35
6	1	35
3	5	35
7	9	16
10	10	19
2	8	19
2	3	55

The Payments table has five columns: payment_id (an integer representing the ID of the payment), order_id (an integer representing the ID of the order to which the payment belongs), amt_paid (a decimal representing the amount paid), payment_date (a date representing the date of the payment), pay_mode (a string representing the mode of payment), and is_paid (a boolean indicating whether the payment has been made). It also includes a foreign key constraint referencing the Orders table.The table after value insertion is given below:-

payment_id	order_id	amt_paid	payment_date	pay_mode	is_paid
1	12	5999999.98	2023-01-02	COD	0
2	23	25000.00	2023-01-11	UPI	1
3	8	535999.99	2023-01-21	netbanking	1
4	24	9000.00	2023-02-06	COD	0
5	34	2465314.73	2023-02-15	UPI	1
6	69	173.25	2023-02-24	netbanking	1
7	42	1300000.01	2023-03-11	COD	0
8	35	7800582.67	2023-03-20	UPI	1
9	16	6300.00	2023-03-29	netbanking	1
10	19	1804491.00	2023-04-07	COD	0

The Shipping table has six columns: shipping_id (an integer representing the ID of the shipping record), order_id (an integer representing the ID of the order to which the shipping record belongs), delivery_date (a date representing the date of delivery), shipping_date (a date representing the date of shipping), shipping_status (a string representing the status of the shipment), and delivery_address (a string representing the address to which the shipment is to be delivered). It also includes a foreign key constraint referencing the Orders table.The table after value insertion is given below:-

shipping_id	order_id	delivery_date	shipping_date	shipping_status	delivery_address
1	12	2023-01-05	2023-01-01	order placed	123 Main St, Bangalore, Karnataka
2	23	2023-01-15	2023-01-10	dispatched	456 Park Rd, Mumbai, Maharashtra
3	8	2023-01-25	2023-01-20	out for delivery	789 Elm St, Delhi, Delhi
4	24	2023-02-15	2023-02-05	cancelled	321 Maple Ave, Hyderabad, Telangana
5	34	2023-02-19	2023-02-14	ongoing	654 Oak St, Chennai, Tamil Nadu
6	69	2023-02-28	2023-02-23	delivered	987 Pine St, Kolkata, West Bengal
7	42	2023-03-15	2023-03-10	cancelled	246 Cedar Rd, Pune, Maharashtra
8	35	2023-03-24	2023-03-19	ongoing	369 Birch Ln, Jaipur, Rajasthan
9	16	2023-04-02	2023-03-28	delivered	159 Walnut St, Ahmedabad, Gujarat
10	19	2023-04-12	2023-04-06	cancelled	753 Cherry Ave, Surat, Gujarat

Relational Schema in 3NF

Customer: { customer_id, first_name, mid_name, last_name, bank_acc, customer_email, street, city, pin, acc_password }

Coupons: { coupon_code, discount_perc, customer_id(FK), expiry_date }

Cart: { quantity, product_id(FK), order_id(FK) }

Orders : { order_id, total_price(derived), order_date, order_status, customer_id(FK) }

Payments : { payment_id, payment_date, amt_paid(derived), pay_mode, is_paid, order_id(FK), is_paid}

Products : { product_id, seller_id(FK), avg_rating(derived), product_name, price, category, on_sale, prod_description }

Shipping: {delivery_address , shipping_status, shipping_date, shipping_id, delivery_date, order_id(FK) }

Reviews: { review_id, customer_id(FK), comments, rating, review_date, product_id(FK) }

Customer_phone: { customer_id(FK), phone_no }

Seller: { seller_id, seller_name, seller_email }

SQL Queries

- Can you help me create a new account on the platform?

  INSERT INTO Customers (first_name, mid_name, last_name, customer_email, acc_password, street, city, pin,bank_acc)
  VALUES ('[first name]', '[middle name]', '[last name]', '[email address]', '[password]', '[street address]', '[city]', [6-digit pin code],"[12 digit no]");

```
320 •  INSERT INTO Customers (first_name, mid_name, last_name, customer_email, acc_password, street, city, pin,bank_acc)
321    VALUES ('Rohit', 'Raj', 'Singh', 'rohitraj@gmail.com', 'rohit123', '12,Ashok nagar', 'dhanbad', 828201,"8452 1517 8485");
322
323 •  select * from customers;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

customer_id	first_name	mid_name	last_name	customer_email	acc_password	street	city	bank_acc	pin
1	Samarth	Kumar	Nair	samarthnair@gmail.com	password1234	MG Road	Pune	9855 5625 1515	411001
2	Aarav	Kumar	Verma	aaravverma@gmail.com	p@ssword123	Gandhi Road	Mumbai	5455 5625 1515	400001
3	Aditi	Singh	Yadav	aditisingh@gmail.com	my$ecurep@ss	Saket Road	New Delhi	5432 5625 1515	110017
4	Akshay	Raj	Sharma	akshaysharma@gmail.com	p@$$word321	MG Road	Bengaluru	5489 5625 1515	560001
5	Anjali	Gupta	Shukla	anjalishukla@gmail.com	pa$$word456	Rajpath	New Delhi	5455 5625 1985	110001
6	Ishaan	Singh	Patel	ishaanpatel@gmail.com	mynewp@ssword	Malabar Hill	Mumbai	5455 8425 1515	400006
7	Jhanvi	Mehta	Kapoor	jhanvikapoor@gmail.com	p@ssw0rd789	Film City Road	Mumbai	5455 5535 1515	400065
8	Kabir	Singh	Bhalla	kabirbhalla@gmail.com	newp@ssword!234	Ashok Nagar	Chennai	6355 5625 1515	600083
9	Kavya	Reddy	Nair	kavyanair@gmail.com	myp@ssword2023	Kochi Bypass	Kochi	9455 5651 1515	682024
10	Riya	Shah	Patil	riyapatil@gmail.com	p@$$word4321	Pedder Road	Mumbai	5455 1651 1515	400026
11	Rohit	Raj	Singh	rohitraj@gmail.com	rohit123	12,Ashok nagar	dhanbad	8452 1517 8485	828201

Using procedure:

```
DELIMITER //

CREATE DEFINER=`root`@`localhost` PROCEDURE `insert_into_customer`(
  IN `firstName` VARCHAR(50),
  IN `middleName` VARCHAR(50),
  IN `lastName` VARCHAR(50),
  IN `email` VARCHAR(100),
  IN `accpassword` VARCHAR(50),
  IN `street` VARCHAR(50),
  IN `city` VARCHAR(50),
  IN `zipCode` INT,
  IN `bankacc` VARCHAR(50)
```

)
BEGIN
INSERT INTO Customers (first_name, mid_name, last_name, customer_email, acc_password, street, city, pin, bank_acc)

VALUES (firstName, middleName, lastName, email, accpassword, street, city, zipCode, bankacc);
END //

DELIMITER ;

To call the above procedure for the same example, the following call method may be used:

CALL insert_into_customer('Rohit', 'Raj', 'Singh', 'rohitraj@gmail.com', 'rohit123', '12,Ashok nagar', 'dhanbad', 828201, '845215178285');

- I want to browse for products in a specific category. How can I do that on the platform?

  To search for the category automobiles:

  select * from products where category = 'Automobile';

```
327 •   select * from products where category = 'Automobile';
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

product_id	seller_id	avg_rating	product_name	price	category	on_sale	prod_description
1	3	4	Tata Safari	1500000.00	Automobile	1	A stylish and comfortable SUV.
2	25	4	Mahindra XUV500	1400000.00	Automobile	0	A feature-rich SUV with advanced safety featur...

- Can you recommend similar products to the one I just purchased?

  Select * from products
  Where category = (select category
  From products where
  Product_id in (select product_id from cart where order_id = [‘insert order_id’])

```
329 •   select * from products
330     where category = (select category from products where
331     product_id in (select product_id from cart where order_id = 12));
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

product_id	seller_id	avg_rating	product_name	price	category	on_sale	prod_description
1	3	4	Tata Safari	1500000.00	Automobile	1	A stylish and comfortable SUV.
2	25	4	Mahindra XUV500	1400000.00	Automobile	0	A feature-rich SUV with advanced safety featur...
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

- I want to track my order. Is there a way to do that on the platform?

  Shipping status would show the stage of delivery - placed, dispatched, delivered, etc.

  select shipping_status from shipping where order_id = [‘insert order id’];

```
333 •   select shipping_status from shipping where order_id = 12;
334
```

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

shipping_status
order placed

- Can you help me update the shipping address in my account?

  May be changed without changing the default address for each customer in customers table using the shipping address as:

  update shipping set delivery_address = '321 Main St, Bangalore, Karnataka' where order_id =12;

```
343 •  update shipping set delivery_address = '321 Main St, Bangalore, Karnataka' where order_id =12;
344 •  select * from shipping;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

shipping_id	order_id	delivery_date	shipping_date	shipping_status	delivery_address
1	12	2023-01-05	2023-01-01	order placed	321 Main St, Bangalore, Karnataka
2	23	2023-01-15	2023-01-10	dispatched	456 Park Rd, Mumbai, Maharashtra
3	8	2023-01-25	2023-01-20	out for delivery	789 Elm St, Delhi, Delhi
4	24	2023-02-15	2023-02-05	cancelled	321 Maple Ave, Hyderabad, Telangana
5	34	2023-02-19	2023-02-14	ongoing	654 Oak St, Chennai, Tamil Nadu
6	69	2023-02-28	2023-02-23	delivered	987 Pine St, Kolkata, West Bengal

- I want to see the details of a product before purchasing it. How can I do that on the platform?

  select prod_description from products where product_name = 'Tata Safari';

```
345 •  select prod_description from products where product_name = 'Tata Safari';
```

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

prod_description
A stylish and comfortable SUV.

- Can you suggest products that are currently on sale?

  select * from products where on_sale = true;

```
341 •  select * from products where on_sale = true;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

product_id	seller_id	avg_rating	product_name	price	category	on_sale	prod_description
1	3	4	Tata Safari	1500000.00	Automobile	1	A stylish and comfortable SUV.
3	9	4	Bajaj Pulsar 150	100000.00	Two Wheeler	1	A powerful and efficient bike.
4	77	3	JioPhone Next	5000.00	Smartphone	1	An affordable smartphone with 4G connectivity.
5	44	4	Godrej Aer Click	249.00	Air Freshener	1	A refreshing fragrance with easy-to-use click m...
6	60	4	Surf Excel Easy Wash	225.00	Laundry Detergent	1	A detergent specially designed for top load was...
9	91	3.5	Wipro Lighting	1500.00	LED Bulbs	1	An energy-efficient LED bulb for home lighting.
10	31	4	Airtel Xstream	499.00	OTT Platform	1	A subscription-based streaming service with a w...
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

- I want to add a product to my cart. How can I do that on the platform?

  INSERT INTO cart (quantity, product_id, order_id) VALUES (2,4,55);

```
343 •   INSERT INTO cart (quantity, product_id, order_id) VALUES (2,4,55);
344 •   select * from cart;
345
```

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

quantity	product_id	order_id
7	9	16
10	10	19
2	8	19
2	3	55
2	4	55

- Can you help me place an order using a coupon code?

  UPDATE payments
  SET amt_paid = (select orders.total_price * (1 - coupons.discount_perc)
  FROM orders
  JOIN coupons ON orders.customer_id = coupons.customer_id
  WHERE payments.order_id = orders.order_id
  AND coupons.expiry_date > payments.payment_date);

payment_id	order_id	amt_paid	payment_date	pay_mode	is_paid
1	12	5999999.98	2023-01-02	COD	0
2	23	25000.00	2023-01-11	UPI	1
3	8	535999.99	2023-01-21	netbanking	1
4	24	9000.00	2023-02-06	COD	0
5	34	2465314.73	2023-02-15	UPI	1
6	69	173.25	2023-02-24	netbanking	1
7	42	1300000.01	2023-03-11	COD	0
8	35	7800582.67	2023-03-20	UPI	1
9	16	6300.00	2023-03-29	netbanking	1
10	19	1804491.00	2023-04-07	COD	0

- I want to cancel an order. How can I do that on the platform?

  UPDATE orders
  SET order_status=”canceled” where order_id=12;

```
349 •   UPDATE orders
350     SET order_status="canceled" where order_id=12;
351 •   select * from orders;
```

Result Grid | Filter Rows: | Edit:

customer_id	order_id	total_price	order_status	order_date
3	8	800000.00	delivered	2023-01-20
1	12	7500000.00	cancelled	2023-0 2023-01-0
9	16	10500.00	delivered	2023-03-28
10	19	2004990.00	cancelled	2023-04-06

- I want to leave a review for a product. How can I do that on the platform?

  Insert into review with your customer_id:
  INSERT INTO Reviews (customer_id, comments, rating, review_date, product_id)
  VALUES (5, 'This product is amazing! I highly recommend it.', 5, '2023-04-07', 32);

```
354 •   INSERT INTO Reviews (review_id,customer_id, comments, rating, review_date, product_id)
355     VALUES (22,11,  'This product is amazing! I highly recommend it.', 4, '2022-03-15', 1);
356 •   select * from reviews;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

review_id	customer_id	comments	rating	review_date	product_id
18	8	Powerful banking software	4	2022-04-12	8
19	9	Bright and energy-efficient bulb	4	2022-04-15	9
20	10	Good collection of movies and sh...	4	2022-04-16	10
22	11	This product is amazing! I highly ...	4	2022-03-15	1

- I want to see my order history. How can I do that on the platform?

  Select * from orders where customer_id = [enter customer id]

```
358 •  Select * from orders where customer_id = 3;
359
```

Result Grid | Filter Rows: | Edit:

customer_id	order_id	total_price	order_status	order_date
3	8	800000.00	delivered	2023-01-20

- Can you help me process a refund for an order I received?

  If you cancel an order and the payment is already done(It has been taken care of, i.e., if payment mode is UPI or Net Banking it would imply prepayment),

  UPDATE orders o
  SET o.order_status = 'refund initiated'
  WHERE o.order_id = 23
  AND (SELECT p.is_paid FROM payments p WHERE p.order_id = o.order_id) = true;

```
360 •  UPDATE orders o
361    SET o.order_status = 'refund initiated'
362    WHERE o.order_id = 23
363    AND (SELECT p.is_paid FROM payments p WHERE p.order_id = o.order_id) = true;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Con

customer_id	order_id	total_price	order_status	order_date
10	19	2004990.00	cancelled	2023-04-06
2	23	4300000.00	refund initiated	2023-01-10
4	24	15000.00	cancelled	2023-02-05

- Can you suggest a product that is frequently purchased with the one I just added to my cart?

  select product_name from products
  where product_id in (
  select product_id from cart where order_id in(
  select order_id from cart where product_id in(
  select product_id from cart where order_id = 12)));

```
366 •   select product_name from products
367     where product_id in (
368     select product_id from cart where order_id in(
369     select order_id from cart where product_id in(
370     select product_id from cart where order_id = 12)));
```

Result Grid | Filter Rows: | Export: | Wrap Cell Cont

product_name
Tata Safari
Mahindra XUV500
Godrej Aer Click
TCS BaNCS

- I want to update the payment information in my account. How can I do that on the platform?

  Update customers
  Set bank_acc=”1234 3283 2887”
  Where customer_id=3;

```
372 •   update customers Set bank_acc="1234 3283 2887"
373     where customer_id=3;
374 •   select * from customers;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

customer_id	first_name	mid_name	last_name	customer_email	acc_password	street	city	bank_acc	pin
1	Samarth	Kumar	Nair	samarthnair@gmail.com	password1234	MG Road	Pune	9855 5625 1515	411001
2	Aarav	Kumar	Verma	aaravverma@gmail.com	p@ssword123	Gandhi Road	Mumbai	5455 5625 1515	400001
3	Aditi	Singh	Yadav	aditisingh@gmail.com	my$ecurep@ss	Saket Road	New Delhi	1234 3283 2887	110017

- Can you suggest products that are currently trending on the platform?

  with trending as (SELECT product_id, COUNT(*) AS frequency
  FROM cart
  GROUP BY product_id
  ORDER BY frequency DESC
  LIMIT 5)
  select product_name from products join trending using(product_id);

```sql
with trending as (SELECT product_id, COUNT(*) AS frequency
FROM cart
GROUP BY product_id
ORDER BY frequency DESC
LIMIT 5)
select product_name from products join trending using(product_id);
```

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

product_name
Tata Safari
Mahindra XUV500
Bajaj Pulsar 150
JioPhone Next
Godrej Aer Click

- Can you help me change the quantity of a product in my cart?

  Update cart
  Set quantity=5
  where product_id=3 and order_id=55 and
  (select order_status from orders where order_id=55)="in cart";

```sql
Update cart
Set quantity=5
where product_id=3 and order_id=55 and
(select order_status from orders where order_id=55)="in cart";
select * from cart;
```

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

quantity	product_id	order_id
7	9	16
10	10	19
2	8	19
5	3	55
2	4	55

Video Links

Rohit Raj - 2020B3A70906P
https://drive.google.com/file/d/1jQ00RruU7p2FCBkLtXRejijwCFJXq5jJ/view?usp=share_link

Adarsh Agarwal - 2020B5A70924P
https://drive.google.com/file/d/1RQrUJN8r0Tih0SfrZTqXgqzObTUI5HJT/view?usp=sharing