

E-COMMERCE SYSTEM

(eGalaxy)

Prepared by:

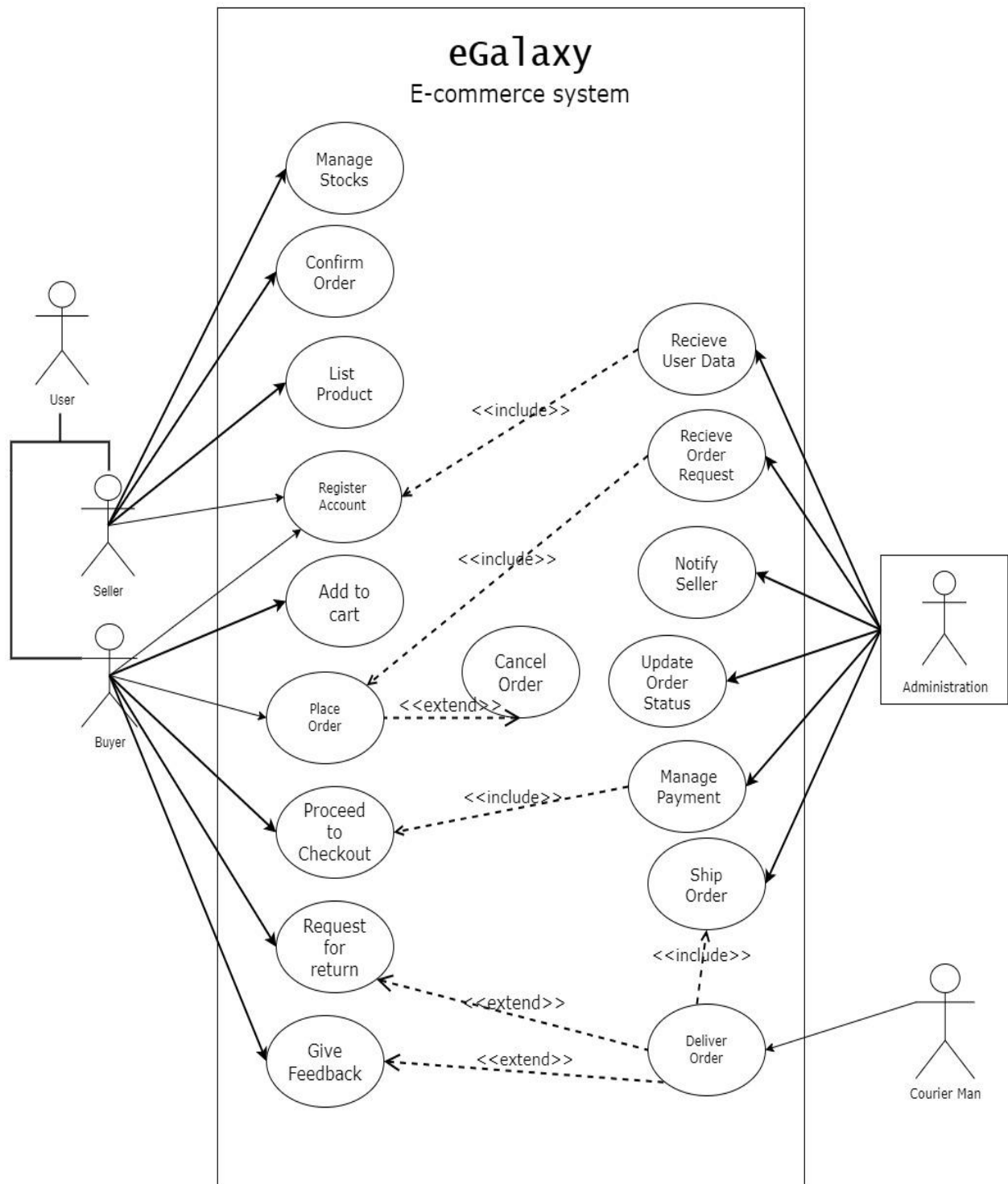
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Muhammad Arqam Khurshed	CT-18

1) INTRODUCTION OF THE SYSTEM:

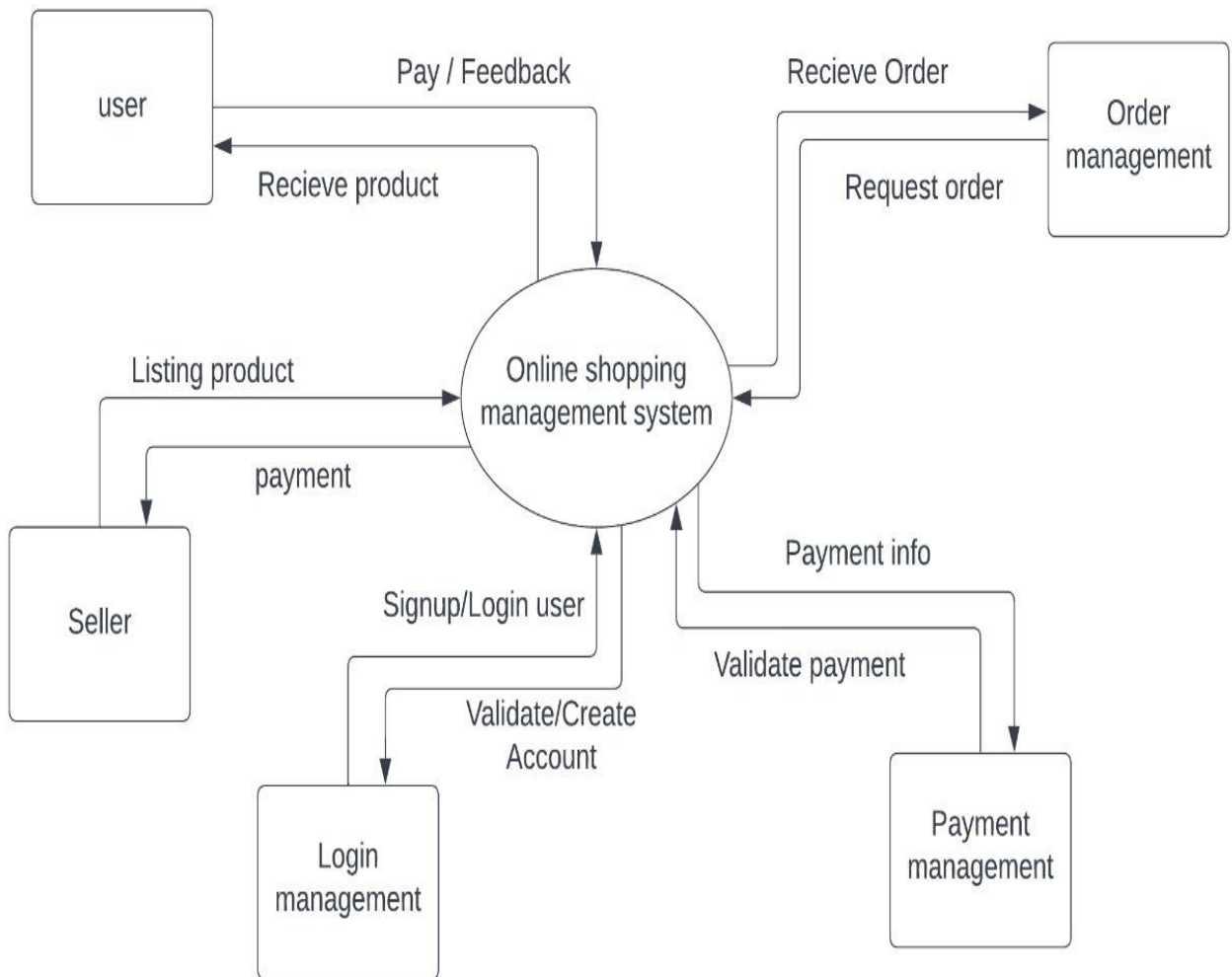
We are making an E-COMMERCE SYSTEM inspired by popular platforms of E-Commerce i.e. Daraz.Pk, Amazon etc. The system we designed is used for E-shopping practices and stuff, in its most common form, consists of two elements: a server that manages user's data and information for authentication purposes and a user interface called (Administration – which is actually a database) that is used by our user i.e. Buyer and Seller. It provides list of features to Buyer as well as the Seller. First of all it makes user to register themselves as a Buyer or Seller and save their data in a database (Administration) which handles the internal management of the system. After logging in, user can perform operations respectively i.e. as a Buyer OR as a Seller.

Like every online shopping platform a Buyer can search for the desired product and if he wishes to buy it then he can select the item/items add to cart and enter the basic details i.e. name, contact, address, email etc and finally proceed to checkout for delivery. Same goes for Seller when the buyer proceeds to checkout, the database(Administration) acknowledges the Seller and the packaging and delivery process of the product starts to function.

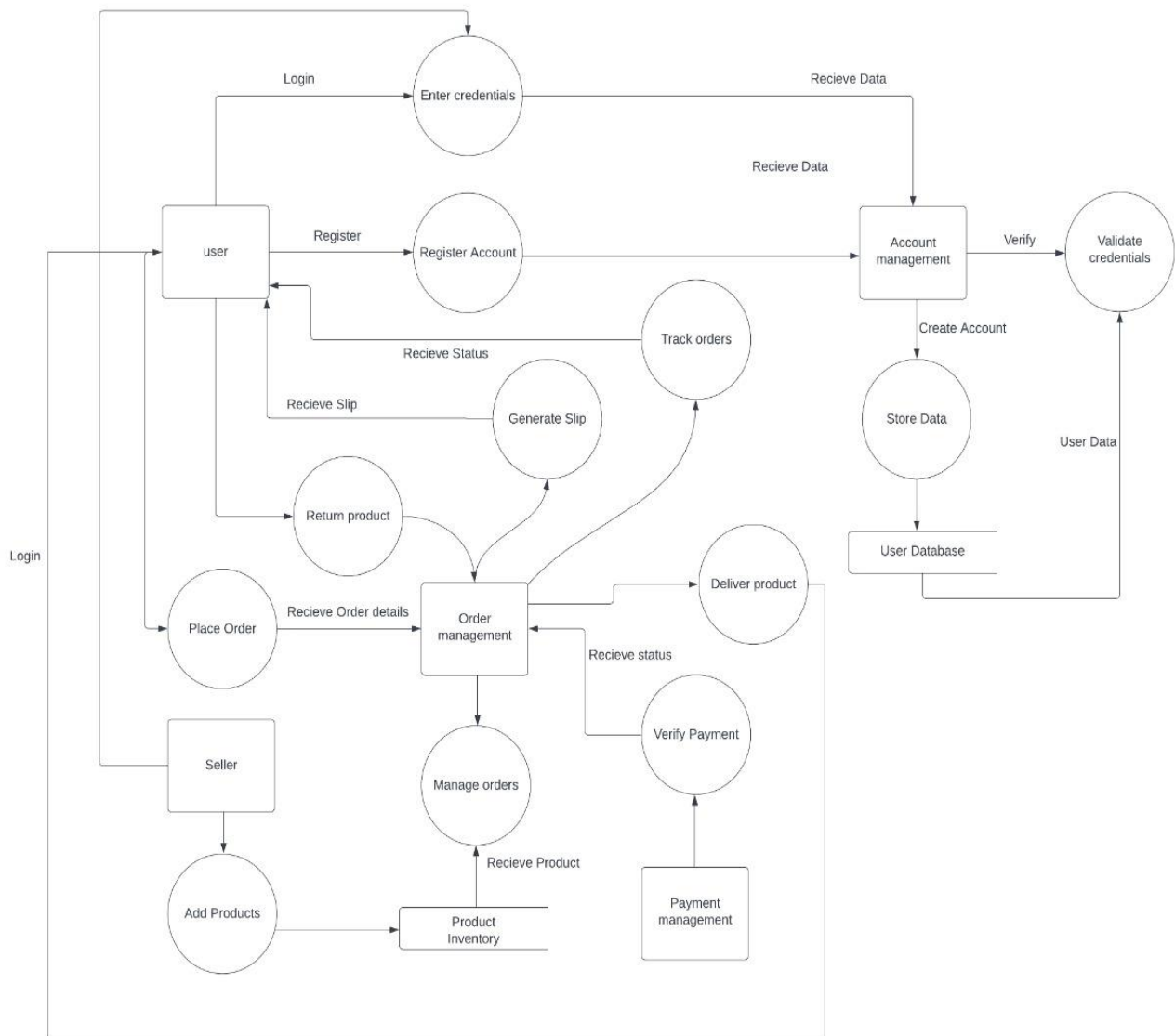
1) USE CASE DIAGRAM:

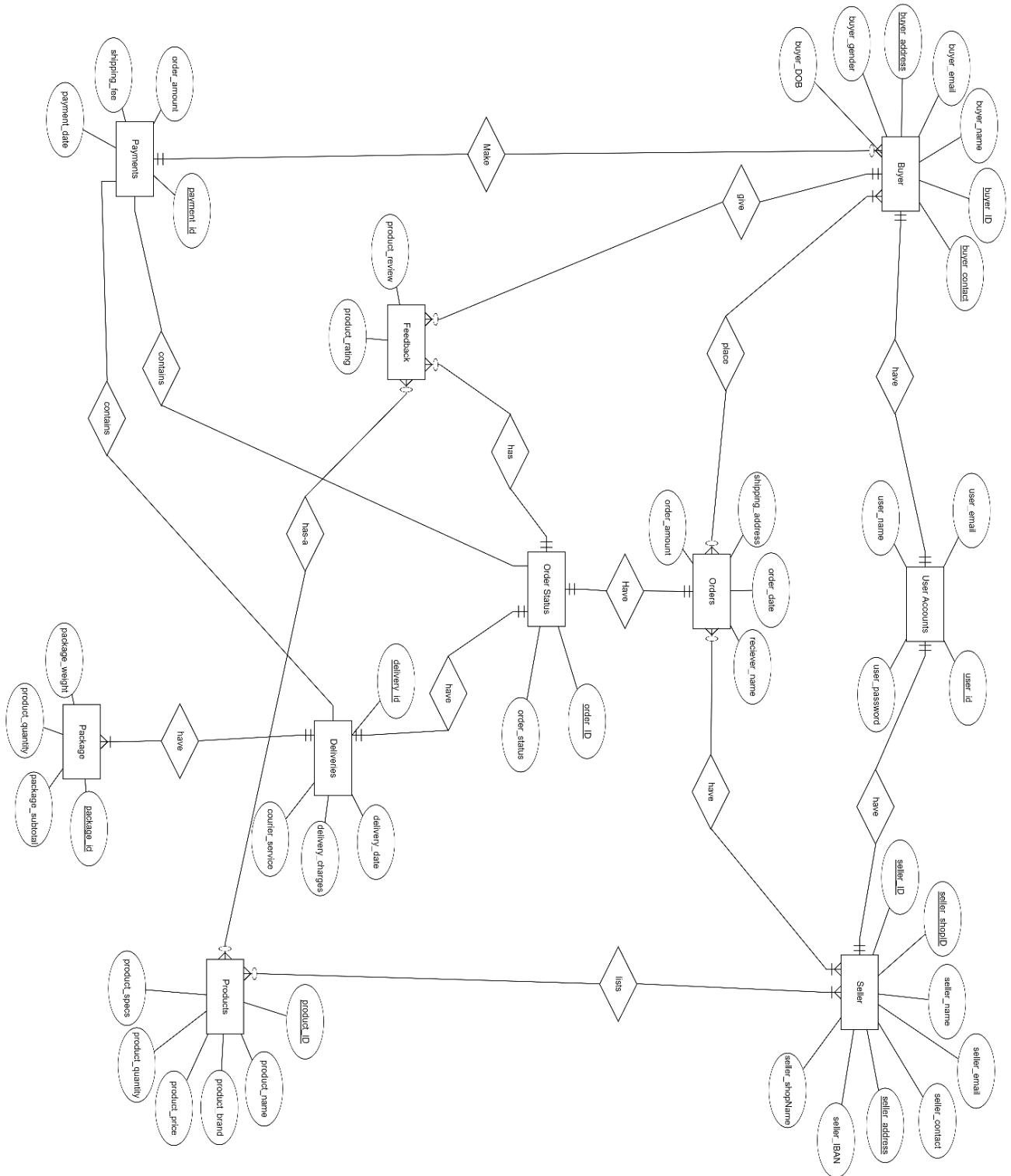


4) DATA FLOW DIAGRAM (LEVEL 0):



5) DATA FLOW DIAGRAM (LEVEL 1):





7) Identify the foreign keys in this schema. Explain how the entity and referential integrity rules apply to these relations.

Foreign Keys:

"user_id" from the table (User Accounts) is treated as a foreign key in the tables (Buyer) and (Seller)

"buyer_ID" from the table (Buyer) is treated as a foreign key in the tables (Payments) (Orders) and (Feedback)

"seller_shopID" from the table (Buyer) is treated as a foreign key in the tables (Products) and (Orders)

"order_ID" from the table (Order Status) is treated as a foreign key in the tables (Payments) (Orders) and (Deliveries)

"product_ID" from the table (Products) is treated as a foreign key in the table (Feedback)

"package_ID" from the table (Products) and *"payment_ID"* from the table (Payments) is treated as a foreign key in the table (Deliveries)

Integrity Rules:

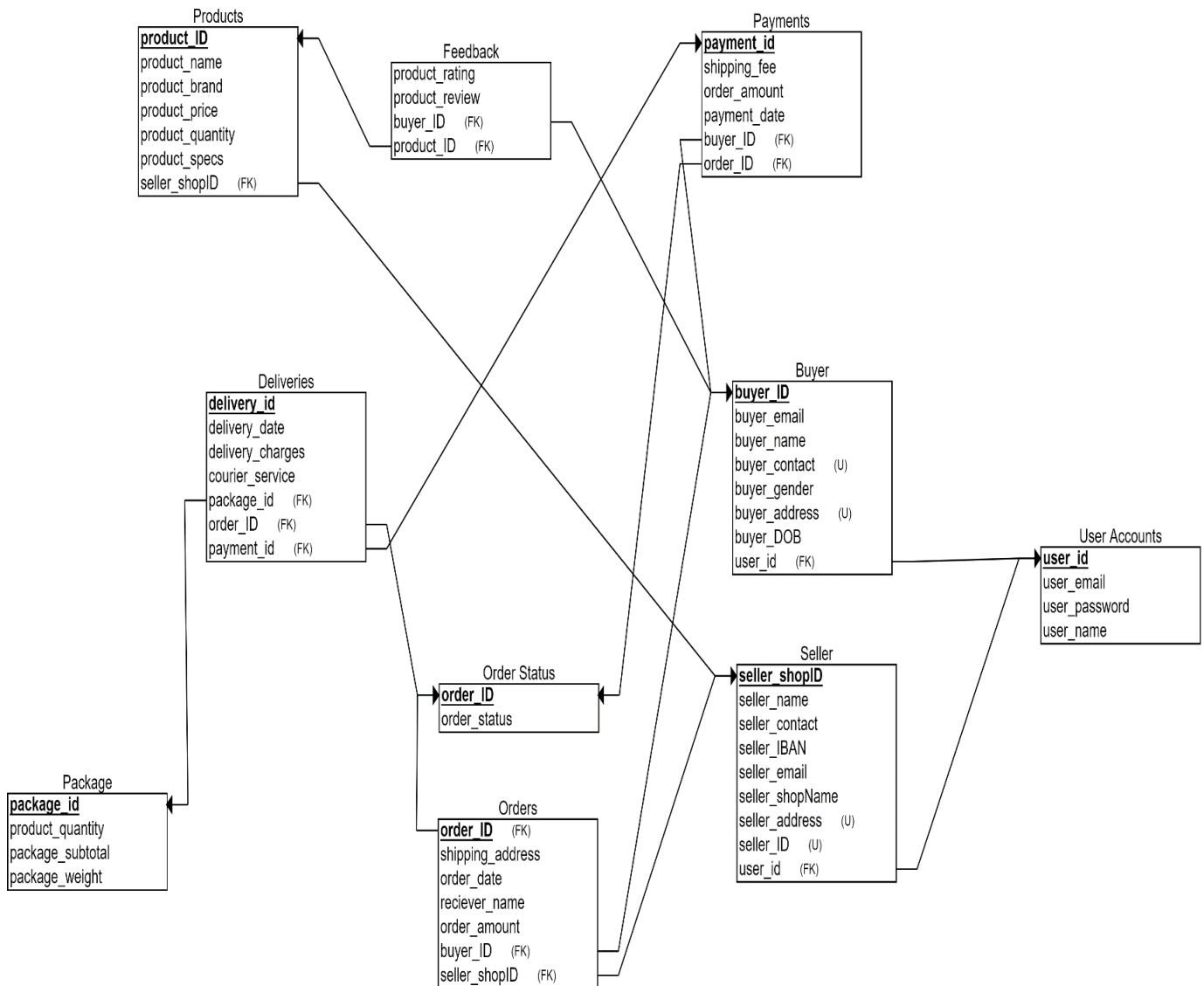
The application of entity and referential integrity among these relations are performed such as in every table the value of primary key cannot be NULL like in tables e.g. (User Accounts, Order Status etc) which satisfies the entity integrity between these relations. Furthermore almost all the primary keys of the tables are acting as a foreign key in the other following tables which itself explains Referential integrity between these relations.

8) Recommended General constraints for this schema:

In this schema, the suggested general constraints would be "NOT NULL" which references a column to NOT accept NULL values; for example username, email, ID etc which cannot be NULL as these are the important aspects of the system to proceed further functionalities

Other general constraints used in our system is "Unique". And else could be Domain and Key constraints.

9) PHYSICAL ERD (3rd Normal Form):



10) **SQL CODE using ERDPLUS:**

```
CREATE TABLE Order_Status
```

```
(  
    order_status VARCHAR(10) NOT NULL,  
    order_ID NUMERIC(5) NOT NULL,  
    PRIMARY KEY (order_ID)  
);
```

```
CREATE TABLE Packages
```

```
(  
    product_quantity NUMERIC(8) NOT NULL,  
    package_subtotal NUMERIC(8) NOT NULL,  
    package_weight FLOAT NOT NULL,  
    package_id NUMERIC(5) NOT NULL,  
    PRIMARY KEY (package_id)  
);
```

```
CREATE TABLE User_Accounts
```

```
(  
    user_email VARCHAR(25) NOT NULL,  
    user_password VARCHAR(25) NOT NULL,  
    user_name VARCHAR(20) NOT NULL,  
    user_id NUMERIC(5) NOT NULL,  
    PRIMARY KEY (user_id)  
);
```

```
CREATE TABLE Buyer
(
    buyer_email VARCHAR(25) NOT NULL,
    buyer_name VARCHAR(25) NOT NULL,
    buyer_contact VARCHAR(11) NOT NULL,
    buyer_gender VARCHAR(1) NOT NULL,
    buyer_address VARCHAR(55) NOT NULL,
    buyer_DOB VARCHAR(12) NOT NULL,
    buyer_ID NUMERIC(5) NOT NULL,
    user_id NUMERIC(5) NOT NULL,
    PRIMARY KEY (buyer_ID),
    FOREIGN KEY (user_id) REFERENCES User_Accounts(user_id),
    UNIQUE (buyer_contact),
    UNIQUE (buyer_address)
);
```

```
CREATE TABLE Seller
(
    seller_name VARCHAR(25) NOT NULL,
    seller_contact VARCHAR(11) NOT NULL,
    seller_shopID NUMERIC(5) NOT NULL,
    seller_IBAN VARCHAR(25) NOT NULL,
    seller_email VARCHAR(25) NOT NULL,
    seller_shopName VARCHAR(15) NOT NULL,
    seller_address VARCHAR(55) NOT NULL,
    seller_ID NUMERIC(5) NOT NULL,
```

```
user_id NUMERIC(5) NOT NULL,  
PRIMARY KEY (seller_shopID),  
FOREIGN KEY (user_id) REFERENCES User_Accounts(user_id),  
UNIQUE (seller_address),  
UNIQUE (seller_ID)  
);
```

CREATE TABLE Payments

```
(  
shipping_fee NUMERIC(5) NOT NULL,  
order_amount NUMERIC(7) NOT NULL,  
payment_date VARCHAR(12) NOT NULL,  
payment_id NUMERIC(5) NOT NULL,  
buyer_ID NUMERIC(5) NOT NULL,  
order_ID NUMERIC(5) NOT NULL,  
PRIMARY KEY (payment_id),  
FOREIGN KEY (buyer_ID) REFERENCES Buyer(buyer_ID),  
FOREIGN KEY (order_ID) REFERENCES Order_Status(order_ID)  
);
```

CREATE TABLE Orders

```
(  
shipping_address VARCHAR(30) NOT NULL,  
order_date VARCHAR(12) NOT NULL,  
reciever_name VARCHAR(20) NOT NULL,  
order_amount NUMERIC(8) NOT NULL,  
buyer_ID NUMERIC(5) NOT NULL,
```

```
order_ID NUMERIC(5) NOT NULL,  
seller_shopID NUMERIC(5) NOT NULL,  
PRIMARY KEY (order_ID),  
FOREIGN KEY (buyer_ID) REFERENCES Buyer(buyer_ID),  
FOREIGN KEY (order_ID) REFERENCES Order_Status(order_ID),  
FOREIGN KEY (seller_shopID) REFERENCES Seller(seller_shopID)  
);
```

CREATE TABLE Products

```
(  
product_ID NUMERIC(5) NOT NULL,  
product_name VARCHAR(20) NOT NULL,  
product_brand VARCHAR(15) NOT NULL,  
product_price NUMERIC(10) NOT NULL,  
product_quantity NUMERIC(5) NOT NULL,  
product_specs VARCHAR(50) NOT NULL,  
seller_shopID NUMERIC(5) NOT NULL,  
PRIMARY KEY (product_ID),  
FOREIGN KEY (seller_shopID) REFERENCES Seller(seller_shopID)  
);
```

CREATE TABLE Deliveries

```
(  
delivery_id NUMERIC(5) NOT NULL,  
delivery_date VARCHAR(12) NOT NULL,  
delivery_charges NUMERIC(5) NOT NULL,  
courier_service VARCHAR(10) NOT NULL,
```

```
package_id NUMERIC(5) NOT NULL,  
order_ID NUMERIC(5) NOT NULL,  
payment_id NUMERIC(5) NOT NULL,  
PRIMARY KEY (delivery_id),  
FOREIGN KEY (package_id) REFERENCES Packages(package_id),  
FOREIGN KEY (order_ID) REFERENCES Order_Status(order_ID),  
FOREIGN KEY (payment_id) REFERENCES Payments(payment_id)  
);
```

```
CREATE TABLE Feedback
```

```
(  
product_rating NUMERIC(2) NOT NULL,  
product_review VARCHAR(30) NOT NULL,  
buyer_ID NUMERIC(5) NOT NULL,  
product_ID NUMERIC(5) NOT NULL,  
FOREIGN KEY (buyer_ID) REFERENCES Buyer(buyer_ID),  
FOREIGN KEY (product_ID) REFERENCES Products(product_ID)  
);
```

11) Schema Of Organization:

BUYER Table Status: Valid Created 19 minutes ago	DELIVERIES Table Status: Valid Created 19 minutes ago	FEEDBACK Table Status: Valid Created 17 minutes ago
ORDERS Table Status: Valid Created 19 minutes ago	ORDER_STATUS Table Status: Valid Created 19 minutes ago	PACKAGE Table Status: Valid Created 19 minutes ago
PAYMENTS Table Status: Valid Created 19 minutes ago	PRODUCTS Table Status: Valid Created 17 minutes ago	SELLER Table Status: Valid Created 19 minutes ago
USER_ACCOUNTS Table Status: Valid Created 19 minutes ago	Activate Windows Go to Settings to activate Windows.	

12) Records Entered in the Tables:

INSERT ALL

INTO Order_Status (order_status,order_ID) values ('delivered', 01)

INTO Order_Status (order_status,order_ID) values ('cancelled', 02)

INTO Order_Status (order_status,order_ID) values ('cancelled', 03)

INTO Order_Status (order_status,order_ID) values ('delivered', 04)

INTO Order_Status (order_status,order_ID) values ('delivered', 05)

INTO Order_Status (order_status,order_ID) values ('cancelled', 06)

INTO Order_Status (order_status,order_ID) values ('delivered', 07)

INTO Order_Status (order_status,order_ID) values ('delivered', 08)

INTO Order_Status (order_status,order_ID) values ('cancelled', 09)

INTO Order_Status (order_status,order_ID) values ('delivered', 10)

INTO Order_Status (order_status,order_ID) values ('ongoing', 11)

INTO Order_Status (order_status,order_ID) values ('cancelled', 12)

INTO Order_Status (order_status,order_ID) values ('ongoing', 13)

INTO Order_Status (order_status,order_ID) values ('delivered', 14)

INTO Order_Status (order_status,order_ID) values ('ongoing', 15)

SELECT * FROM dual;

INSERT ALL

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(7,10000, 3.5, 01)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(2,2000,4, 02)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(1,100,0.5, 03)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(4,2500,3, 04)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(10,15000,6.5, 05)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(3,700,1.5, 06)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(4,1400,3.7, 07)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(1,1000,1.2, 08)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(12,20000,8, 09)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(3,1499,1, 10)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(6,4500,3, 11)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(2,4999,2.3, 12)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(9,7999,1.8, 13)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(1,499,0.7, 14)

INTO Packages (product_quantity,package_subtotal,package_weight,package_id) values
(1,999,0.5, 15)

SELECT * FROM dual;

INSERT ALL

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('rafay32@gmail.com','sdbvjjsk','Abdul Rafay', 01)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('anas139@gmail.com','adjhdo22','Muhammad Anas', 02)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('alibk120@gmail.com','kashif10299','Ali bin Kashif', 03)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('hmzaahmedk@gmail.com','hamza2937219','Hamza Ahmed khan', 04)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('Arqamk192@gmail.com','arq10280ba','Arqam Khursheed', 05)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('saimnad10201@gmail.com','saoahwdb','Saim Nadeem', 06)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('neha199@gmail.com','akdbfauoo128','Neha khan', 07)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('afridi1019@gmail.com','bilal1310','Bilal afridi', 08)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('sam1090030@gmail.com','aklsnlan','Sam khalid', 09)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('mak399@gmail.com','makjeija911','Muhammad Ahsan', 10)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('sheikh009@gmail.com','llakgdao1928','Daniyal Sheikh', 11)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('arshad129@gmail.com','skjfbkskf','Arshaq Iqbal', 12)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('Muskan832@gmail.com','makjiabd3819','Muskan Azhar', 13)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('Ataib002@gmail.com','abdaieg8278','Ataib Saboor', 14)

INTO User_Accounts (user_email,user_password,user_name,user_id) values ('dua9123@gmail.com','ncaohaoe#19','Dua khan', 15)

```
SELECT * FROM dual;
```

```
INSERT ALL
```

```
INTO Buyer
```

```
(buyer_email,buyer_name,buyer_contact,buyer_gender,buyer_address,buyer_DOB,buyer_ID,user_id) values ('rafay32@gmail.com','Abdul Rafay','03093254160','M','28-Lawrance Road,karachi','13/02/2002',01, 01)
```

```
INTO Buyer
```

```
(buyer_email,buyer_name,buyer_contact,buyer_gender,buyer_address,buyer_DOB,buyer_ID,user_id) values ('anas139@gmail.com','Muhammad Anas','03015773718','M','2nd Floor,45,Depot Line,saddar,karachi','21/06/2000',02, 02)
```

```
INTO Buyer
```

```
(buyer_email,buyer_name,buyer_contact,buyer_gender,buyer_address,buyer_DOB,buyer_ID,user_id) values ('alibk120@gmail.com','Ali bin Kashif','03304284777','M','Akram Mansion, Roberts Road, Nila Gumbad,Lahore','26/02/2005',03, 03)
```

```
INTO Buyer
```

```
(buyer_email,buyer_name,buyer_contact,buyer_gender,buyer_address,buyer_DOB,buyer_ID,user_id) values ('hmzaahmedk@gmail.com','Hamza Ahmed khan','03165447041','M','#4744 Firdous Auto Market Gawalmandi,Rawalpindi','22/10/2006',04, 04)
```

```
INTO Buyer
```

```
(buyer_email,buyer_name,buyer_contact,buyer_gender,buyer_address,buyer_DOB,buyer_ID,user_id) values ('Arqamk192@gmail.com','Arqam Khursheed','03367788672','M','Memon Arcade, Block No.13-B, Karachi','28/09/2001',05, 05)
```

```
INTO Buyer
```

```
(buyer_email,buyer_name,buyer_contact,buyer_gender,buyer_address,buyer_DOB,buyer_ID,user_id) values ('saimnad10201@gmail.com','Saim Nadeem','03642597464','M','House No. 601, Main Korangi Road, Karachi','20/03/2005',06, 06)
```

```
INTO Buyer
```

```
(buyer_email,buyer_name,buyer_contact,buyer_gender,buyer_address,buyer_DOB,buyer_ID,user_id) values ('neha199@gmail.com','Neha khan','03308785034','F','Razia Sharif Plaza 90-West, Jinnah Avenue, Blue Area','28/12/2000',07, 07)
```

```
INTO Buyer
```

```
(buyer_email,buyer_name,buyer_contact,buyer_gender,buyer_address,buyer_DOB,buyer_ID,user_id) values ('KHAN32@gmail.com','Ali Khan','03093254560','M','29-Lawrance Road,karachi','13/06/2002',08, 08)
```

INTO Buyer

(buyer_email,buyer_name,buyer_contact,buyer_gender,buyer_address,buyer_DOB,buyer_ID,user_id) values ('anaskhan34@gmail.com','Anas Khan','03015343718','M','2nd Floor,45, saddar,karachi','21/06/2000',09, 09)

INTO Buyer

(buyer_email,buyer_name,buyer_contact,buyer_gender,buyer_address,buyer_DOB,buyer_ID,user_id) values ('asad120@gmail.com','Asad Kherro','03304384777','M','kHERRO Mansion,,Lahore','26/02/2005',10, 10)

SELECT * FROM dual;

INSERT ALL

INTO Seller

(seller_name,seller_contact,seller_shopID,seller_IBAN,seller_email,seller_shopName,seller_address,seller_ID,user_id) values ('Bilal afridi','03642080155',68218,'PK35SISE1855213428998365','afridi1019@gmail.com','DollarSmart','11-Modern Coop. H. Society Tipu Sultan Road,karachi',01, 08)

INTO Seller

(seller_name,seller_contact,seller_shopID,seller_IBAN,seller_email,seller_shopName,seller_address,seller_ID,user_id) values ('Sam khalid','03085669057',77518,'PK21GNVV8311628748568552','sam1090030@gmail.com','Megaplex','Auqaf Plaza New Dabgari Garden',02, 09)

INTO Seller

(seller_name,seller_contact,seller_shopID,seller_IBAN,seller_email,seller_shopName,seller_address,seller_ID,user_id) values ('Muhammad Ahsan','03407618078',75293,'PK80ISRB1147935165455322','mak399@gmail.com','Fuller Shelf','CP-1,Dastgir Centre,1st Floor Agha Khan III Road',03, 10)

INTO Seller

(seller_name,seller_contact,seller_shopID,seller_IBAN,seller_email,seller_shopName,seller_address,seller_ID,user_id) values ('Daniyal Sheikh','03441948634',11001,'PK92HFZM4286613424783296','sheikh009@gmail.com','Shopperia','C-2, Iqbal Colony, cantt, karachi',04, 11)

INTO Seller

(seller_name,seller_contact,seller_shopID,seller_IBAN,seller_email,seller_shopName,seller_address,seller_ID,user_id) values ('Arshaq

Iqbal','03120704759',19631,'PK89RLRB1218159837797793','arshad129@gmail.com','Organicum','
16-Ammar Plaza, Allama Iqbal Town, Lahore',05, 12)

INTO Seller

(seller_name,seller_contact,seller_shopID,seller_IBAN,seller_email,seller_shopName,seller_address,
seller_ID,user_id) values ('Muskan
Azhar','03144526756',27052,'PK33XATQ2796529594431545','Muskan832@gmail.com','RedFox
Shop','233/A-2, Shahra-e-Quaideen, Karachi',06, 13)

INTO Seller

(seller_name,seller_contact,seller_shopID,seller_IBAN,seller_email,seller_shopName,seller_address,
seller_ID,user_id) values ('Ataib
Saboor','03300855491',41636,'PK36MKCB9549742872884338','Ataib002@gmail.com','AlieExpres
s','Shop No.G-2, China Square Plaza, Rawalpindi',07, 14)

INTO Seller

(seller_name,seller_contact,seller_shopID,seller_IBAN,seller_email,seller_shopName,seller_address,
seller_ID,user_id) values ('Dua
khan','03019811485',84957,'PK64HQEQ2414562514322585','dua9123@gmail.com','Vendira','Bloc
k-17,Gulberg-Samnabad, Main Road F.B area',08, 15)

SELECT * FROM dual;

INSERT ALL

INTO Payments (shipping_fee, order_amount, payment_date, payment_id, buyer_id, order_id)
values (200, 2000, '11/06/2020', 1001, 1,1)

INTO Payments (shipping_fee, order_amount, payment_date, payment_id, buyer_id, order_id)
values (450, 6550, '16/06/2020', 1002, 2,2)

INTO Payments (shipping_fee, order_amount, payment_date, payment_id, buyer_id, order_id)
values (550, 5000, '17/06/2020', 1003, 3,3)

INTO Payments (shipping_fee, order_amount, payment_date, payment_id, buyer_id, order_id)
values (1050, 20500, '19/06/2020', 1004, 4,4)

INTO Payments (shipping_fee, order_amount, payment_date, payment_id, buyer_id, order_id)
values (780, 15700, '21/06/2020', 1005, 5,5)

INTO Payments (shipping_fee, order_amount, payment_date, payment_id, buyer_id, order_id)
values (800, 16000, '21/06/2020', 1006, 6,6)

INTO Payments (shipping_fee, order_amount, payment_date, payment_id, buyer_id, order_id)
values (650, 8900, '21/06/2020', 1007, 7,7)

INTO Payments (shipping_fee, order_amount, payment_date, payment_id, buyer_id, order_id)
values (100, 1200, '22/06/2020', 1008, 8,8)

INTO Payments (shipping_fee, order_amount, payment_date, payment_id, buyer_id, order_id)
values (250, 3000, '23/06/2020', 1009, 9,9)

INTO Payments (shipping_fee, order_amount, payment_date, payment_id, buyer_id, order_id)
values (350, 4000, '24/06/2020', 1010, 10,10)

select * from dual;

INSERT ALL

INTO Orders(shipping_address, order_date, reciever_name, order_amount, buyer_ID, order_ID,
seller_shopID) values ('kHERRO Mansion ,Lahore', '12/04/2022' , 'Asad Kherro', 5000 , 10 , 1,
68218)

INTO Orders(shipping_address, order_date, reciever_name, order_amount, buyer_ID, order_ID,
seller_shopID) values ('2nd Floor,45, saddar,karachi', '13/04/2022' , 'Anas Khan', 12000 , 09 , 2,
77518)

INTO Orders(shipping_address, order_date, reciever_name, order_amount, buyer_ID, order_ID,
seller_shopID) values ('29-Lawrance Road,karachi', '14/04/2022' , 'Ali Khan', 6000 , 08 , 3, 68218)

INTO Orders(shipping_address, order_date, reciever_name, order_amount, buyer_ID, order_ID,
seller_shopID) values ('Razia Sharif Plaza 90-West', '15/04/2022' , 'Neha Khan', 7000 , 07 , 4,
68218)

INTO Orders(shipping_address, order_date, reciever_name, order_amount, buyer_ID, order_ID,
seller_shopID) values ('House No. 601, Main Korangi Road, Karachi', '16/04/2022' , 'Saim
Nadeem', 8000 , 06 ,5, 68218)

INTO Orders(shipping_address, order_date, reciever_name, order_amount, buyer_ID, order_ID,
seller_shopID) values ('Memon Arcade, Block No.13-B, Karachi', '17/04/2022' , 'Arqam
Khursheed', 9000 , 05 ,6, 68218)

INTO Orders(shipping_address, order_date, reciever_name, order_amount, buyer_ID, order_ID, seller_shopID) values ('Firdous Auto Market Gawalmandi, Rawalpindi', '18/04/2022' , 'Hamza Ahmed', 10000 , 04 ,7, 68218)

INTO Orders(shipping_address, order_date, reciever_name, order_amount, buyer_ID, order_ID, seller_shopID) values ('Akram Mansion, Roberts Road, Nila Gumbad,Lahore', '19/04/2022' , 'Ali Bin Kashif', 12000 , 03 ,9, 68218)

INTO Orders(shipping_address, order_date, reciever_name, order_amount, buyer_ID, order_ID, seller_shopID) values ('28-Lawrance Road,karachi', '21/04/2022' , 'Abdul Rafay', 6000 , 02 ,10, 68218)

select * from dual;

INSERT ALL

INTO Products (product_ID, product_name, product_brand, product_price, product_quantity, product_specs, seller_shopID) values (12, 'Smart Fridge' , 'Dawlance' , 57000 , 12 , '-' , 68218)

INTO Products (product_ID, product_name, product_brand, product_price, product_quantity, product_specs, seller_shopID) values (13, 'Soap' , 'Lux' , 50 , 1000 , '-' , 77518)

INTO Products (product_ID, product_name, product_brand, product_price, product_quantity, product_specs, seller_shopID) values (14, 'Peanut Butter' , 'Herman' , 1500 , 50 , '-' , 77518)

INTO Products (product_ID, product_name, product_brand, product_price, product_quantity, product_specs, seller_shopID) values (15, 'Joggers' , 'Nike' , 6500 , 20 , '-' , 77518)

INTO Products (product_ID, product_name, product_brand, product_price, product_quantity, product_specs, seller_shopID) values (16, 'LED TV' , 'TCL' , 15000 , 30 , '-' , 68218)

INTO Products (product_ID, product_name, product_brand, product_price, product_quantity, product_specs, seller_shopID) values (17, 'LED TV UHD' , 'Samsung' , 40000 , 15 , '-' , 68218)

INTO Products (product_ID, product_name, product_brand, product_price, product_quantity, product_specs, seller_shopID) values (18, 'Calulator' , 'Casio' , 1500 , 60 , '-' , 68218)

INTO Products (product_ID, product_name, product_brand, product_price, product_quantity, product_specs, seller_shopID) values (19, 'T Shirt' , 'WBR' , 750 , 10 , '-' , 68218)

INTO Products (product_ID, product_name, product_brand, product_price, product_quantity, product_specs, seller_shopID) values (20, 'Jeans Pant' , 'Denim' , 1500 , 10 , '-' , 68218)

INTO Products (product_ID, product_name, product_brand, product_price, product_quantity, product_specs, seller_shopID) values (21, 'Body Spray' , 'Bold' , 600 , 20 , '-' , 68218)

select * from dual

INSERT ALL

INTO Deliveries(delivery_id, delivery_date, delivery_charges, courier_service, package_id, order_ID, payment_id) VALUES (1,'14/06/2022', 100, 'TCS' , 1 , 3 , 1001)

INTO Deliveries(delivery_id, delivery_date, delivery_charges, courier_service, package_id, order_ID, payment_id) VALUES (2,'15/06/2022', 150, 'TCS' , 2 , 5 , 1002)

INTO Deliveries(delivery_id, delivery_date, delivery_charges, courier_service, package_id, order_ID, payment_id) VALUES (3,'15/06/2022', 200, 'TCS' , 3 , 6 , 1003)

INTO Deliveries(delivery_id, delivery_date, delivery_charges, courier_service, package_id, order_ID, payment_id) VALUES (4,'16/06/2022', 250, 'TCS' , 4 , 4 , 1004)

INTO Deliveries(delivery_id, delivery_date, delivery_charges, courier_service, package_id, order_ID, payment_id) VALUES (5,'16/06/2022', 290, 'TCS' , 5 , 3 , 1005)

INTO Deliveries(delivery_id, delivery_date, delivery_charges, courier_service, package_id, order_ID, payment_id) VALUES (6,'16/06/2022', 300, 'TCS' , 6 , 7 , 1006)

INTO Deliveries(delivery_id, delivery_date, delivery_charges, courier_service, package_id, order_ID, payment_id) VALUES (7,'17/06/2022', 320, 'TCS' , 7 , 8 , 1007)

INTO Deliveries(delivery_id, delivery_date, delivery_charges, courier_service, package_id, order_ID, payment_id) VALUES (8,'18/06/2022', 380, 'TCS' , 8 , 2 , 1008)

INTO Deliveries(delivery_id, delivery_date, delivery_charges, courier_service, package_id, order_ID, payment_id) VALUES (9,'18/06/2022', 400, 'TCS' , 9 , 1 , 1009)

INTO Deliveries(delivery_id, delivery_date, delivery_charges, courier_service, package_id, order_ID, payment_id) VALUES (10,'19/06/2022', 500, 'TCS' , 10 , 9 , 1010)

select * from dual;

INSERT ALL

INTO Feedback (product_rating, product_review, buyer_ID, product_ID) VALUES (10, 'Good', 1, 12)

INTO Feedback (product_rating, product_review, buyer_ID, product_ID) VALUES (6, 'Good', 2, 12)

INTO Feedback (product_rating, product_review, buyer_ID, product_ID) VALUES (2, 'Poor', 3, 16)

INTO Feedback (product_rating, product_review, buyer_ID, product_ID) VALUES (4, 'Just good', 5, 17)

INTO Feedback (product_rating, product_review, buyer_ID, product_ID) VALUES (9, 'Excellent', 5, 18)

INTO Feedback (product_rating, product_review, buyer_ID, product_ID) VALUES (8, 'Amazing!', 5, 18)

INTO Feedback (product_rating, product_review, buyer_ID, product_ID) VALUES (1, 'Poor quality!', 6, 20)

INTO Feedback (product_rating, product_review, buyer_ID, product_ID) VALUES (10, 'Amazing!', 4, 21)

INTO Feedback (product_rating, product_review, buyer_ID, product_ID) VALUES (8, 'Amazing!', 5, 18)

INTO Feedback (product_rating, product_review, buyer_ID, product_ID) VALUES (3, 'Not good', 8, 20)

select * from dual

13) **User Privileges:**

- **Database Administrator DBA (Ali Bin Kashif CT-040)**

"Ali Bin Kashif" is Database Administrator who is the highest level of database privilege is database administrator, or DBA. When you create a database, you are automatically the DBA.

Holders of the DBA privilege can perform the following functions:

- Execute the DROP DATABASE, START DATABASE, and ROLLFORWARD DATABASE statements.
- Drop or alter any object regardless of who owns it.
- Create tables, views, and indexes to be owned by other users.
- Grant database privileges, including the DBA privilege, to another user.

- **Database Designer (Muhammad Abdul Rafay CT-050)**

Database Designer is "Muhammad Abdul Rafay" who has performed the following tasks and privileges as a DBD.

Following are the Required Tasks and Privileges:

Tasks:

- Add tables to a design
- Add a single design query to the design
- Add a query file to the design

- Add queries from the result of a user query to the design
- Create design and deployment scripts

Privileges:

- USAGE privilege on the design table schema
- OWNER privilege on the design table
- Privilege to execute the design query
- Read privilege on the storage location that contains the query file
- Privilege to execute all the queries in the file
- Privilege to execute the user query
- Privilege to execute each design query retrieved from the results of the user query
- WRITE privilege on the storage location of the design script
- WRITE privilege on the storage location of the deployment script

• Application Developer (Hamza Ahmed Khan CT-035)

“Hamza Ahmed Khan” works as an Application Developer who handles the enterprise-wide application administration needed for configuring and extending applications.

Following are the Roles and Responsibilities of Application Developer in the Database Management System:

- Design, develop and implement database systems based on customer requirements.
- Optimize database systems for performance efficiency.
- Prepare design specifications and functional documentations for assigned database projects.
- Perform space management and capacity planning for database systems.

- Develop database tables and dictionaries.
- Ensure data quality and integrity in databases.
- Identify any issues related to database performance and provide corrective measures.
- Create complex functions, scripts, stored procedures and triggers to support application development.
- Participate in database design and architecture to support application development projects.
- Perform data back-up and archival on regular basis.
- Test databases and perform bug fixes.
- Troubleshoot database related issues in a timely fashion.
- Develop security procedures to protect databases from unauthorized usage.
- Evaluate existing database and recommend improvements for performance efficiency.
- Develop best practices for database design and development activities.

- **End-User (Muhammad Arqam Khursheed CT-018):**

"Muhammad Arqam Khursheed" is the End-user of this system. The end user of a database typically never sees the software or its files, and may be unaware of how the system works. Because she uses the application software that interacts with the database, however, the system programmer must build the setup to fit her needs.

Furthermore, An End-User can be Buyer or Seller. Following are the functions a Buyer or Seller can perform in the Database are:

- **Account Settings** -- a server that manages user's data and information for authentication purposes and a user interface called (Administration – which is actually a database) that is used by our user i.e. Buyer and Seller. First of all it

makes user to register themselves as a Buyer or Seller and save their data in a database (Administration) which handles the internal management of the system. After logging in, user can perform operations respectively i.e. as a Buyer OR as a Seller.

(For BUYER):

- **Placement of Order** -- Like every online shopping platform a Buyer can search for the desired product and if he wishes to buy it then he can select the item/items add to cart.
- **Proceed to Checkout** – When the buyer is done with selecting of product and added to the cart after that he need to enter the basic details i.e. name, contact, address, email etc and finally proceed to checkout for delivery and receive the payslip which has order details (download option for payslip is available).
- **Product Delivery** – When the order is confirmed by the buyer and seller respectively then the database(Administration) will be responsible for the shipment process of product and duration of delivery and also updating buyer about the order status and is also responsible for the shipment and delivery charges of the product.
- **Payment Method** – Only COD payment method is available.
- **Cancellation of Order(optional)** – If the buyer order some product after proceeding the checkout functionality and want to cancel the order, he can cancel his order within 2 minutes clicking the Cancel Order option after checking out otherwise the Cancel Order option will not be functioned.
- **Request for Return(optional)** – When a buyer received his product and he/she does not satisfies with the product or the product have some issues i.e. wrong size, color, damage product or exchange or refund etc. He/She can easily return the product by selecting Request for Return option. After selecting the option the database(Administration) will acknowledge the seller to return the product. Seller send the message to buyer that he/she can return the product through our courier service. Our rider will pickup your parcel and send back to the seller and

after examining the product the seller will response to the buyer according to the request.

- **Feedback(optional)** – After receiving the product the buyer has to give feedback to (the product, the seller, delivery man). The buyer response is maintained by the database(Administration).

(For SELLER):

- **Manage Stocks** – The seller has to manage the products stock before publishing the advertisement or product listing
- **Listing of Products** – After creating account and logging in as a seller, the seller needs to list at least one product with the feasible quantity of stock.
- **Confirm Order** -- when the buyer proceeds to checkout, the database(Administration) acknowledges the Seller and the packaging and delivery process of the product starts to function.

14) Queries:

```
select * from seller
```

```
where seller_id = (select max(seller_id) from seller)
```

```
select * from payments
```

```
where shipping_fee = (select min(shipping_fee) from payments)
```

```
select order_id, min(order_amount) from orders
```

```
group by order_id
```

```
having min(order_amount) > 5000
```

```
select * from feedback
```

```
where product_rating > any (select min(product_rating) from feedback)
```

```
SELECT user_id
```

```
FROM Seller s
```

```
WHERE s.seller_id IN
```

```
(SELECT ua.user_id
```

```
FROM user_accounts ua)
```

```
select * from feedback
```

```
where product_rating > all (select min(product_rating) from feedback)
```