**TABLE CREATION**

-- Sequence for Customer IDs

CREATE SEQUENCE customer\_seq START WITH 1 INCREMENT BY 1;

-- Customers Table

CREATE TABLE Customers (

id NUMBER PRIMARY KEY,

name VARCHAR2(100) NOT NULL,

username VARCHAR2(50) UNIQUE NOT NULL,

password VARCHAR2(255) NOT NULL,

email VARCHAR2(100) UNIQUE NOT NULL,

phone VARCHAR2(20)

);

-- Trigger to auto-increment Customers ID

CREATE OR REPLACE TRIGGER trg\_customers\_id

BEFORE INSERT ON Customers

FOR EACH ROW

BEGIN

:NEW.id := customer\_seq.NEXTVAL;

END;

/

-- Sequence for Courier IDs

CREATE SEQUENCE courier\_seq START WITH 1 INCREMENT BY 1;

-- Couriers Table

CREATE TABLE Couriers (

id NUMBER PRIMARY KEY,

name VARCHAR2(100) NOT NULL,

username VARCHAR2(50) UNIQUE NOT NULL,

password VARCHAR2(255) NOT NULL,

phone VARCHAR2(20)

);

-- Trigger for Couriers ID

CREATE OR REPLACE TRIGGER trg\_couriers\_id

BEFORE INSERT ON Couriers

FOR EACH ROW

BEGIN

:NEW.id := courier\_seq.NEXTVAL;

END;

/

-- Sequence for Orders

CREATE SEQUENCE order\_seq START WITH 1 INCREMENT BY 1;

-- Orders Table

CREATE TABLE Orders (

id NUMBER PRIMARY KEY,

customer\_id NUMBER NOT NULL,

status VARCHAR2(20) CHECK (status IN ('pending', 'picked up', 'in transit', 'Delivered', 'Cancelled')),

sender\_location VARCHAR2(255) NOT NULL,

receiver\_location VARCHAR2(255) NOT NULL,

courier\_id NUMBER,

package\_type VARCHAR2(100),

delivery\_time DATE,

payment\_options VARCHAR2(100),

CONSTRAINT fk\_customer FOREIGN KEY (customer\_id) REFERENCES Customers(id),

CONSTRAINT fk\_courier FOREIGN KEY (courier\_id) REFERENCES Couriers(id)

);

-- Trigger for Orders ID

CREATE OR REPLACE TRIGGER trg\_orders\_id

BEFORE INSERT ON Orders

FOR EACH ROW

BEGIN

:NEW.id := order\_seq.NEXTVAL;

END;

/

-- Sequence for Admin IDs

CREATE SEQUENCE admin\_seq START WITH 1 INCREMENT BY 1;

-- Admin Table

CREATE TABLE Admin (

id NUMBER PRIMARY KEY,

username VARCHAR2(50) UNIQUE NOT NULL,

password VARCHAR2(255) NOT NULL

);

-- Trigger for Admin ID

CREATE OR REPLACE TRIGGER trg\_admin\_id

BEFORE INSERT ON Admin

FOR EACH ROW

BEGIN

:NEW.id := admin\_seq.NEXTVAL;

END;

/

# **DATA INSERTION (INITIAL DATA)**

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Sara Saad', 'customer1', 'hashed\_pass1', 'customer1@masr.com', '01533920335');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Mohamed Tawfik', 'customer2', 'hashed\_pass2', 'customer2@masr.com', '01045692464');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Khaled Kamel', 'customer3', 'hashed\_pass3', 'customer3@masr.com', '01207454560');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Mona Yehia', 'customer4', 'hashed\_pass4', 'customer4@masr.com', '01268048337');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Ahmed Yehia', 'customer5', 'hashed\_pass5', 'customer5@masr.com', '01587008435');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Mona Kamel', 'customer6', 'hashed\_pass6', 'customer6@masr.com', '01245154130');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Rania Gamal', 'customer7', 'hashed\_pass7', 'customer7@masr.com', '01038945755');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Alaa Saad', 'customer8', 'hashed\_pass8', 'customer8@masr.com', '01549838628');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Fatma Saleh', 'customer9', 'hashed\_pass9', 'customer9@masr.com', '01186850634');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Tarek Hussein', 'customer10', 'hashed\_pass10', 'customer10@masr.com', '01004400306');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Sara Fahmy', 'customer11', 'hashed\_pass11', 'customer11@masr.com', '01063357707');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Ahmed Fahmy', 'customer12', 'hashed\_pass12', 'customer12@masr.com', '01085740354');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Huda Sayed', 'customer13', 'hashed\_pass13', 'customer13@masr.com', '01189791511');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Rania Saleh', 'customer14', 'hashed\_pass14', 'customer14@masr.com', '01013723616');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Aya Saleh', 'customer15', 'hashed\_pass15', 'customer15@masr.com', '01513314856');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Aya Tawfik', 'customer16', 'hashed\_pass16', 'customer16@masr.com', '01045013133');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Marwa Ashraf', 'customer17', 'hashed\_pass17', 'customer17@masr.com', '01043179210');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Ahmed Zaki', 'customer18', 'hashed\_pass18', 'customer18@masr.com', '01119485596');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Aya Gamal', 'customer19', 'hashed\_pass19', 'customer19@masr.com', '01105424384');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Alaa Fahmy', 'customer20', 'hashed\_pass20', 'customer20@masr.com', '01008849169');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Omar Yehia', 'customer21', 'hashed\_pass21', 'customer21@masr.com', '01100779037');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Omar Shawky', 'customer22', 'hashed\_pass22', 'customer22@masr.com', '01083690790');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Mohamed Tawfik', 'customer23', 'hashed\_pass23', 'customer23@masr.com', '01235121653');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Tarek Tawfik', 'customer24', 'hashed\_pass24', 'customer24@masr.com', '01100893926');

INSERT INTO Customers (name, username, password, email, phone) VALUES ('Sara Shawky', 'customer25', 'hashed\_pass25', 'customer25@masr.com', '01287605538');

INSERT INTO Couriers (name, username, password, phone) VALUES ('Mohamed Saad', 'courier1', 'courier\_pass1', '01076130385');

INSERT INTO Couriers (name, username, password, phone) VALUES ('Khaled Tawfik', 'courier2', 'courier\_pass2', '01053636180');

INSERT INTO Couriers (name, username, password, phone) VALUES ('Aya Hassan', 'courier3', 'courier\_pass3', '01062989091');

INSERT INTO Couriers (name, username, password, phone) VALUES ('Khaled Ali', 'courier4', 'courier\_pass4', '01546356182');

INSERT INTO Couriers (name, username, password, phone) VALUES ('Marwa Yehia', 'courier5', 'courier\_pass5', '01535859895');

INSERT INTO Couriers (name, username, password, phone) VALUES ('Nour Farouk', 'courier6', 'courier\_pass6', '01081361370');

INSERT INTO Couriers (name, username, password, phone) VALUES ('Dina Nassar', 'courier7', 'courier\_pass7', '01023686738');

INSERT INTO Couriers (name, username, password, phone) VALUES ('Mahmoud El Sayed', 'courier8', 'courier\_pass8', '01507950980');

INSERT INTO Couriers (name, username, password, phone) VALUES ('Youssef Zaki', 'courier9', 'courier\_pass9', '01599576270');

INSERT INTO Couriers (name, username, password, phone) VALUES ('Khaled Zaki', 'courier10', 'courier\_pass10', '01593860919');

INSERT INTO Admin (username, password) VALUES ('admin1', 'admin\_secure1');

INSERT INTO Admin (username, password) VALUES ('admin2', 'admin\_secure2');

INSERT INTO Admin (username, password) VALUES ('admin3', 'admin\_secure3');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (25, 'Cancelled', 'Asyut', 'Mansoura', 1, 'Envelope', TO\_DATE('2025-04-28', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (18, 'picked up', 'Maadi, Cairo', 'Beni Suef', 2, 'Small Box', TO\_DATE('2025-04-20', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (20, 'Cancelled', 'Heliopolis, Cairo', '6th of October City, Giza', NULL, 'Document', TO\_DATE('2025-04-21', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (20, 'Cancelled', 'Alexandria', 'Qena', NULL, 'Small Box', TO\_DATE('2025-04-19', 'YYYY-MM-DD'), 'Credit Card');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (2, 'pending', 'Aswan', 'Sheikh Zayed, Giza', 7, 'Electronics', TO\_DATE('2025-04-28', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (13, 'Cancelled', 'Heliopolis, Cairo', 'Minya', 6, 'Envelope', TO\_DATE('2025-04-20', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (5, 'picked up', 'Heliopolis, Cairo', 'Ismailia', 4, 'Document', TO\_DATE('2025-04-27', 'YYYY-MM-DD'), 'Vodafone Cash');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (9, 'pending', 'Heliopolis, Cairo', 'Suez', 8, 'Electronics', TO\_DATE('2025-04-19', 'YYYY-MM-DD'), 'Fawry');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (1, 'pending', 'Kafr El Sheikh', 'Shubra El Kheima', NULL, 'Large Box', TO\_DATE('2025-04-26', 'YYYY-MM-DD'), 'Credit Card');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (3, 'Cancelled', 'Qena', 'Beni Suef', 6, 'Small Box', TO\_DATE('2025-04-28', 'YYYY-MM-DD'), 'Credit Card');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (19, 'Cancelled', 'Ismailia', 'Kafr El Sheikh', NULL, 'Electronics', TO\_DATE('2025-04-28', 'YYYY-MM-DD'), 'Credit Card');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (12, 'Delivered', 'Mansoura', 'Qena', 7, 'Document', TO\_DATE('2025-04-26', 'YYYY-MM-DD'), 'Vodafone Cash');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (14, 'picked up', '6th of October City, Giza', 'Shubra El Kheima', 7, 'Document', TO\_DATE('2025-04-24', 'YYYY-MM-DD'), 'Fawry');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (13, 'Cancelled', 'Shubra El Kheima', 'Zagazig', 8, 'Large Box', TO\_DATE('2025-04-19', 'YYYY-MM-DD'), 'Fawry');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (13, 'pending', 'Sheikh Zayed, Giza', 'Zagazig', 5, 'Electronics', TO\_DATE('2025-04-25', 'YYYY-MM-DD'), 'Vodafone Cash');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (9, 'picked up', 'Luxor', 'Sharm El Sheikh', 3, 'Electronics', TO\_DATE('2025-04-28', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (13, 'Cancelled', 'Maadi, Cairo', 'Maadi, Cairo', 10, 'Document', TO\_DATE('2025-04-22', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (21, 'picked up', 'Dokki, Giza', 'Minya', 7, 'Electronics', TO\_DATE('2025-04-28', 'YYYY-MM-DD'), 'Fawry');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (20, 'in transit', 'Damietta', 'Suez', 3, 'Envelope', TO\_DATE('2025-04-22', 'YYYY-MM-DD'), 'Vodafone Cash');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (17, 'in transit', 'Nasr City, Cairo', 'Asyut', NULL, 'Large Box', TO\_DATE('2025-04-26', 'YYYY-MM-DD'), 'Vodafone Cash');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (4, 'picked up', 'Luxor', '6th of October City, Giza', 2, 'Electronics', TO\_DATE('2025-04-21', 'YYYY-MM-DD'), 'Credit Card');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (8, 'pending', 'Ismailia', 'Dokki, Giza', 4, 'Envelope', TO\_DATE('2025-04-20', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (18, 'pending', 'Ismailia', 'Shubra El Kheima', NULL, 'Large Box', TO\_DATE('2025-04-21', 'YYYY-MM-DD'), 'Fawry');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (21, 'Cancelled', 'Fayoum', 'Minya', 7, 'Document', TO\_DATE('2025-04-21', 'YYYY-MM-DD'), 'Credit Card');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (17, 'pending', 'Zagazig', 'Alexandria', NULL, 'Small Box', TO\_DATE('2025-04-28', 'YYYY-MM-DD'), 'Vodafone Cash');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (19, 'Delivered', 'Minya', 'Ismailia', 9, 'Document', TO\_DATE('2025-04-21', 'YYYY-MM-DD'), 'Fawry');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (16, 'Cancelled', 'Shubra El Kheima', '6th of October City, Giza', 1, 'Document', TO\_DATE('2025-04-24', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (8, 'Cancelled', 'Nasr City, Cairo', 'Port Said', NULL, 'Document', TO\_DATE('2025-04-24', 'YYYY-MM-DD'), 'Vodafone Cash');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (3, 'Cancelled', 'Mohandessin, Giza', 'Zagazig', 1, 'Document', TO\_DATE('2025-04-25', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (21, 'pending', 'Fayoum', 'Port Said', 6, 'Document', TO\_DATE('2025-04-25', 'YYYY-MM-DD'), 'Vodafone Cash');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (11, 'Cancelled', 'Mohandessin, Giza', 'Damietta', 4, 'Electronics', TO\_DATE('2025-04-24', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (25, 'Delivered', 'Tanta', 'Minya', NULL, 'Envelope', TO\_DATE('2025-04-27', 'YYYY-MM-DD'), 'Fawry');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (5, 'in transit', 'Qena', 'Port Said', 10, 'Envelope', TO\_DATE('2025-04-23', 'YYYY-MM-DD'), 'Vodafone Cash');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (5, 'picked up', 'Shubra El Kheima', 'Fayoum', NULL, 'Small Box', TO\_DATE('2025-04-23', 'YYYY-MM-DD'), 'Credit Card');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (23, 'Delivered', 'Luxor', 'Port Said', 2, 'Small Box', TO\_DATE('2025-04-20', 'YYYY-MM-DD'), 'Cash on Delivery');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (20, 'picked up', 'Sharm El Sheikh', 'Zamalek, Cairo', 6, 'Electronics', TO\_DATE('2025-04-28', 'YYYY-MM-DD'), 'Vodafone Cash');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (19, 'Delivered', 'Heliopolis, Cairo', 'Aswan', 2, 'Document', TO\_DATE('2025-04-25', 'YYYY-MM-DD'), 'Credit Card');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (11, 'in transit', 'Asyut', 'Zamalek, Cairo', NULL, 'Electronics', TO\_DATE('2025-04-20', 'YYYY-MM-DD'), 'Vodafone Cash');

INSERT INTO Orders (customer\_id, status, sender\_location, receiver\_location, courier\_id, package\_type, delivery\_time, payment\_options) VALUES (11, 'picked up', 'Sheikh Zayed, Giza', 'Zagazig', 7, 'Small Box', TO\_DATE('2025-04-26', 'YYYY-MM-DD'), 'Cash on Delivery');

**Code fixes**

UPDATE orders SET courier\_id = null where status='pending'

**Commit**

commit

**Procedures - 1**

CREATE OR REPLACE PROCEDURE Get\_Pending\_Order\_IDs (

p\_cursor OUT SYS\_REFCURSOR

)

AS

BEGIN

OPEN p\_cursor FOR

SELECT id

FROM Orders

WHERE status = 'pending';

END;

**Procedures - 2**

CREATE OR REPLACE PROCEDURE Get\_Order\_By\_ID (

p\_id IN NUMBER,

p\_customer\_id OUT NUMBER,

p\_status OUT VARCHAR2,

p\_sender\_location OUT VARCHAR2,

p\_receiver\_location OUT VARCHAR2,

p\_package\_type OUT VARCHAR2,

p\_delivery\_time OUT DATE,

p\_payment\_options OUT VARCHAR2

)

AS

BEGIN

SELECT customer\_id, status, sender\_location, receiver\_location,

package\_type, delivery\_time, payment\_options

INTO p\_customer\_id, p\_status, p\_sender\_location, p\_receiver\_location,

p\_package\_type, p\_delivery\_time, p\_payment\_options

FROM Orders

WHERE id = p\_id;

EXCEPTION

WHEN NO\_DATA\_FOUND THEN

-- Optional: set defaults or raise an error

p\_customer\_id := NULL;

p\_status := NULL;

p\_sender\_location := NULL;

p\_receiver\_location := NULL;

p\_package\_type := NULL;

p\_delivery\_time := NULL;

p\_payment\_options :=NULL;

END;

**Final Commit**

Commit

**Formula code**

ToText(

DateDiff("d", DateAdd("d", - (Remainder({ORDERS.ID} \* 13, 8) + 3), {ORDERS.DELIVERY\_TIME}), {ORDERS.DELIVERY\_TIME}),

0,

""

) + " Days"