

--Assignment: Advanced SQL Usage  
--Author: Shuang Zheng

--TASK 1.1

CREATE VIEW warehouse\_shipments AS

SELECT s.tracking\_number, s.weight, s.status, w.name

FROM shipments s

JOIN warehouses w ON s.warehouse\_id = w.warehouse\_id;

CREATE VIEW

Query returned successfully in 29 msec.

SELECT \* FROM warehouse\_shipments;

	<b>tracking_number</b> character varying (20) 🔒	<b>weight</b> numeric (10,2) 🔒	<b>status</b> character varying (20) 🔒	<b>name</b> character varying (50) 🔒
1	ABC123	150.50	Pending	Warehouse A
2	XYZ789	200.00	Pending	Warehouse B

--TASK 1.2

CREATE VIEW carrier\_shipments AS

SELECT s.tracking\_number, s.weight, s.status, c.name

FROM shipments s

JOIN carriers c ON s.carrier\_id = c.carrier\_id;

CREATE VIEW

Query returned successfully in 30 msec.

SELECT \* FROM carrier\_shipments;

	tracking_number character varying (20) 🔒	weight numeric (10,2) 🔒	status character varying (20) 🔒	name character varying (50) 🔒
1	ABC123	150.50	Pending	Carrier X
2	XYZ789	200.00	Pending	Carrier Y

--TASK 2.1

```
WITH pending_shipments AS (  
    SELECT s.tracking_number, s.weight, w.location  
    FROM shipments s  
    JOIN warehouses w ON s.warehouse_id = w.warehouse_id  
    WHERE s.status = 'Pending'  
)  
SELECT * FROM pending_shipments;
```

	<b>tracking_number</b> character varying (20) 🔒	<b>weight</b> numeric (10,2) 🔒	<b>location</b> character varying (100) 🔒
1	ABC123	150.50	Location A
2	XYZ789	200.00	Location B

--TASK 2.2

```
WITH heavy_shipments AS (  
    SELECT s.tracking_number, s.weight, c.name  
    FROM shipments s  
    JOIN carriers c ON s.carrier_id = c.carrier_id  
    WHERE s.weight > 200  
)  
SELECT * FROM heavy_shipments;
```

	<b>tracking_number</b> character varying (20) 🔒	<b>weight</b> numeric (10,2) 🔒	<b>name</b> character varying (50) 🔒
--	--	-----------------------------------	---

--TASK 3.1

BEGIN;

UPDATE shipments

SET status = 'Shipped', weight = weight + 10

WHERE tracking\_number = 'ABC123';

COMMIT;

COMMIT

Query returned successfully in 29 msec.

SELECT \* FROM shipments;

	shipment_id [PK] integer	tracking_number character varying (20)	weight numeric (10,2)	status character varying (20)	warehouse_id integer	carrier_id integer
1	2	XYZ789	200.00	Pending	2	2
2	1	ABC123	160.50	Shipped	1	1

--TASK 3.2

BEGIN;

INSERT INTO shipments (tracking\_number, weight, warehouse\_id, carrier\_id)




VALUES ('LMN456', 180.75, 2, 2);

COMMIT;

COMMIT

Query returned successfully in 29 msec.

SELECT \* FROM shipments;

	shipment_id [PK] integer 	tracking_number character varying (20) 	weight numeric (10,2) 	status character varying (20) 	warehouse_id integer 	carrier_id integer 
1	2	XYZ789	200.00	Pending	2	2
2	1	ABC123	160.50	Shipped	1	1
3	3	LMN456	180.75	Pending	2	2

--TASK 4.1

```
CREATE INDEX idx_tracking_number ON shipments (tracking_number);
```

```
CREATE INDEX
```

Query returned successfully in 45 msec.