DATABASE ORGANISATION CS – 425

DELIVERABLE – 2

INVENTORY MANAGEMENT SYSTEM

GROUP - 5

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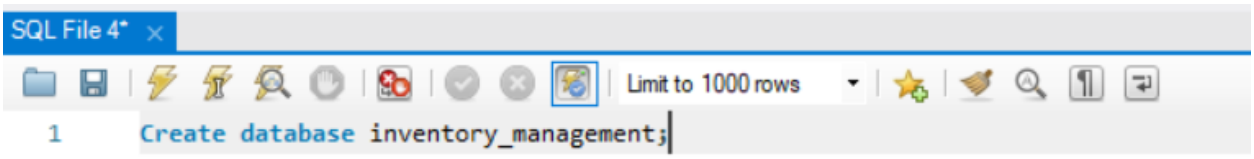
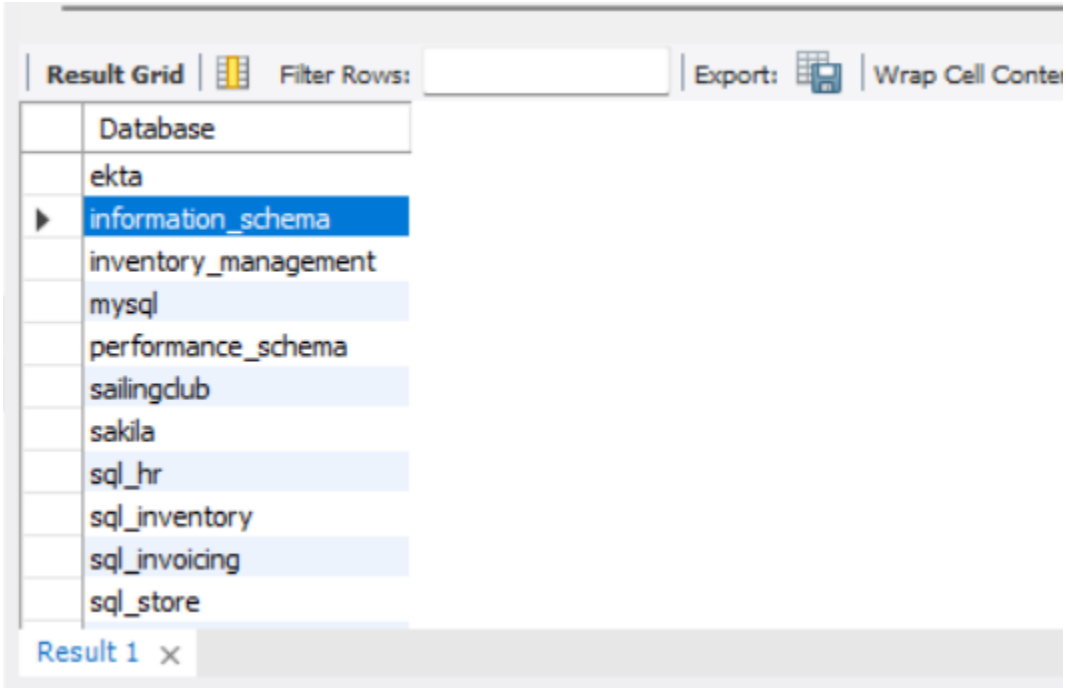
Step 1:

Create Data Base inventory_management and show inventory_management database name in databases list



Output:



Use database:

Step 2:

<u>Create Tables, attributes and inserting the records into tables:</u>

1. <u>Product</u>:

- **Create Product Table**

```
CREATE TABLE Product (
    PID INT PRIMARY KEY,
    Pname VARCHAR(100),
    Pcategory VARCHAR(50),
    Punit_price DECIMAL(10, 2),
    Pstock_quantity INT
);
```

- **Insert** values in **Product** table –

```
INSERT INTO Product (PID, Pname, Pcategory, Punit_price, Pstock_quantity) VALUES
(1, 'Laptop', 'Electronics', 999.99, 50),
(2, 'Smartphone', 'Electronics', 599.99, 100),
(3, 'Desk Chair', 'Furniture', 149.99, 30),
(4, 'Coffee Maker', 'Appliances', 79.99, 40),
(5, 'Running Shoes', 'Sportswear', 89.99, 75),
(6, 'Bluetooth Speaker', 'Electronics', 49.99, 60),
(7, 'Dining Table', 'Furniture', 299.99, 20),
(8, 'Microwave Oven', 'Appliances', 129.99, 35),
(9, 'Yoga Mat', 'Sportswear', 29.99, 100),
(10, 'External Hard Drive', 'Electronics', 89.99, 55),
(11, 'Bookshelf', 'Furniture', 179.99, 25),
(12, 'Blender', 'Appliances', 69.99, 45),
(13, 'Fitness Tracker', 'Electronics', 79.99, 80),
(14, 'Office Desk', 'Furniture', 249.99, 15),
(15, 'Air Fryer', 'Appliances', 99.99, 50);
```

- **Output**

PID	Pname	Pcategory	Punit_price	Pstock_quant...
1	Laptop	Electronics	999.99	50
2	Smartphone	Electronics	599.99	100
3	Desk Chair	Furniture	149.99	30
4	Coffee Maker	Appliances	79.99	40
5	Running Shoes	Sportswear	89.99	75
6	Bluetooth Speaker	Electronics	49.99	60
7	Dining Table	Furniture	299.99	20
8	Microwave Oven	Appliances	129.99	35
9	Yoga Mat	Sportswear	29.99	100
10	External Hard Drive	Electronics	89.99	55
11	Bookshelf	Furniture	179.99	25
12	Blender	Appliances	69.99	45
13	Fitness Tracker	Electronics	79.99	80
14	Office Desk	Furniture	249.99	15
15	Air Fryer	Appliances	99.99	50
NULL	NULL	NULL	NULL	NULL

2. Supplier:

- **Create Supplier Table**

```
CREATE TABLE Supplier (
    SUPID INT PRIMARY KEY,
    Sname VARCHAR(100),
    Saddress VARCHAR(200),
    Scontact_info VARCHAR(100)
);
```

- **Insert** values in **Supplier** table –

```
INSERT INTO Supplier (SUPID, Sname, Saddress, Scontact_info) VALUES
(1, 'Tech Supplies Inc.', '123 Tech St, Silicon Valley, CA', 'contact@techsupplies.com'),
(2, 'Global Gadgets', '456 Gadget Ave, New York, NY', 'info@globalgadgets.com'),
(3, 'Furniture World', '789 Comfort Ln, Chicago, IL', 'sales@furnitureworld.com'),
(4, 'Appliance Depot', '101 Kitchen Rd, Houston, TX', 'support@appliancedepot.com'),
(5, 'Sports Gear Co.', '202 Athlete Blvd, Los Angeles, CA', 'info@sportsgearco.com'),
(6, 'Electronics Emporium', '303 Circuit Ave, San Jose, CA', 'sales@electronicsemporium.com'),
(7, 'Home Essentials', '404 Living St, Miami, FL', 'contact@homeessentials.com'),
(8, 'Office Solutions', '505 Business Pkwy, Atlanta, GA', 'info@officesolutions.com'),
(9, 'Fitness Fanatics', '606 Gym Rd, Denver, CO', 'support@fitnessfanatics.com'),
(10, 'Kitchen Wonders', '707 Culinary Ln, Seattle, WA', 'sales@kitchenwonders.com'),
(11, 'Tech Innovators', '808 Innovation Dr, Boston, MA', 'info@techinnovators.com'),
(12, 'Comfort Living', '909 Relax Ave, Phoenix, AZ', 'contact@comfortliving.com'),
(13, 'Gadget Galaxy', '1010 Starship Blvd, Austin, TX', 'support@gadgetgalaxy.com'),
(14, 'Eco Friendly Goods', '1111 Green St, Portland, OR', 'info@ecofriendlygoods.com'),
(15, 'Smart Home Solutions', '1212 Connected Rd, San Francisco, CA', 'sales@smarthomesolutions.com');
```

- **Output**

SUPID	Sname	Saddress	Scontact_info
1	Tech Supplies Inc.	123 Tech St, Silicon Valley, CA	contact@techsupplies.com
2	Global Gadgets	456 Gadget Ave, New York, NY	info@globalgadgets.com
3	Furniture World	789 Comfort Ln, Chicago, IL	sales@furnitureworld.com
4	Appliance Depot	101 Kitchen Rd, Houston, TX	support@appliancedepot.com
5	Sports Gear Co.	202 Athlete Blvd, Los Angeles, CA	info@sportsgearco.com
6	Electronics Emporium	303 Circuit Ave, San Jose, CA	sales@electronicsemporium.com
7	Home Essentials	404 Living St, Miami, FL	contact@homeessentials.com
8	Office Solutions	505 Business Pkwy, Atlanta, GA	info@officesolutions.com
9	Fitness Fanatics	606 Gym Rd, Denver, CO	support@fitnessfanatics.com
10	Kitchen Wonders	707 Culinary Ln, Seattle, WA	sales@kitchenwonders.com
11	Tech Innovators	808 Innovation Dr, Boston, MA	info@techinnovators.com
12	Comfort Living	909 Relax Ave, Phoenix, AZ	contact@comfortliving.com
13	Gadget Galaxy	1010 Starship Blvd, Austin, TX	support@gadgetgalaxy.com
14	Eco Friendly Goods	1111 Green St, Portland, OR	info@ecofriendlygoods.com
15	Smart Home Solutions	1212 Connected Rd, San Franci…	sales@smarthomesolutions.com
NULL	NULL	NULL	NULL

3. Order:

- **Create Order Table**

```
CREATE TABLE `Order` (
    OID INT PRIMARY KEY,
    order_date DATE,
    SUPID INT,
    Ototal_amount DECIMAL(10, 2),
    FOREIGN KEY (SUPID) REFERENCES Supplier(SUPID)
);
```

- **Insert** values in **Order** table –

```
INSERT INTO `Order` (OID, order_date, SUPID, Ototal_amount) VALUES
(1, '2024-09-01', 1, 9999.90),
(2, '2024-09-02', 2, 5999.90),
(3, '2024-09-03', 3, 2999.80),
(4, '2024-09-04', 4, 1599.80),
(5, '2024-09-05', 5, 1799.80),
(6, '2024-09-06', 6, 999.80),
(7, '2024-09-07', 7, 5999.80),
(8, '2024-09-08', 8, 2599.80),
(9, '2024-09-09', 9, 599.80),
(10, '2024-09-10', 10, 1799.80),
(11, '2024-09-11', 11, 3599.80),
(12, '2024-09-12', 12, 1399.80),
(13, '2024-09-13', 13, 1599.80),
(14, '2024-09-14', 14, 4999.80),
(15, '2024-09-15', 15, 1999.80);
```

- **Output**

Result Grid | Filter Rows: Search | Edit: | Export/Import:

OID	order_date	SUPID	Ototal_amount
1	2024-09-01	1	9999.90
2	2024-09-02	2	5999.90
3	2024-09-03	3	2999.80
4	2024-09-04	4	1599.80
5	2024-09-05	5	1799.80
6	2024-09-06	6	999.80
7	2024-09-07	7	5999.80
8	2024-09-08	8	2599.80
9	2024-09-09	9	599.80
10	2024-09-10	10	1799.80
11	2024-09-11	11	3599.80
12	2024-09-12	12	1399.80
13	2024-09-13	13	1599.80
14	2024-09-14	14	4999.80
15	2024-09-15	15	1999.80
NULL	NULL	NULL	NULL

4. Order_Details:

- **Create Order_Details Table**

```sql
CREATE TABLE Order_Details (
    ODID INT PRIMARY KEY,
    OID INT,
    PID INT,
    ODquantity INT,
    ODunit_price DECIMAL(10, 2),
    FOREIGN KEY (OID) REFERENCES `Order`(OID),
    FOREIGN KEY (PID) REFERENCES Product(PID)
);
```

- **Insert** values in **Order_Details** table –

```sql
INSERT INTO Order_Details (ODID, OID, PID, ODquantity, ODunit_price) VALUES
(1, 1, 1, 10, 999.99),
(2, 2, 2, 10, 599.99),
(3, 3, 3, 20, 149.99),
(4, 4, 4, 20, 79.99),
(5, 5, 5, 20, 89.99),
(6, 6, 6, 20, 49.99),
(7, 7, 7, 20, 299.99),
(8, 8, 8, 20, 129.99),
(9, 9, 9, 20, 29.99),
(10, 10, 10, 20, 89.99),
(11, 11, 11, 20, 179.99),
(12, 12, 12, 20, 69.99),
(13, 13, 13, 20, 79.99),
(14, 14, 14, 20, 249.99),
(15, 15, 15, 20, 99.99);
```

- **Output**

Result Grid | Filter Rows: Search | Edit: | Export/Import:

ODID	OID	PID	ODquantity	ODunit_price
1	1	1	10	999.99
2	2	2	10	599.99
3	3	3	20	149.99
4	4	4	20	79.99
5	5	5	20	89.99
6	6	6	20	49.99
7	7	7	20	299.99
8	8	8	20	129.99
9	9	9	20	29.99
10	10	10	20	89.99
11	11	11	20	179.99
12	12	12	20	69.99
13	13	13	20	79.99
14	14	14	20	249.99
15	15	15	20	99.99
NULL	NULL	NULL	NULL	NULL

5. Customer:

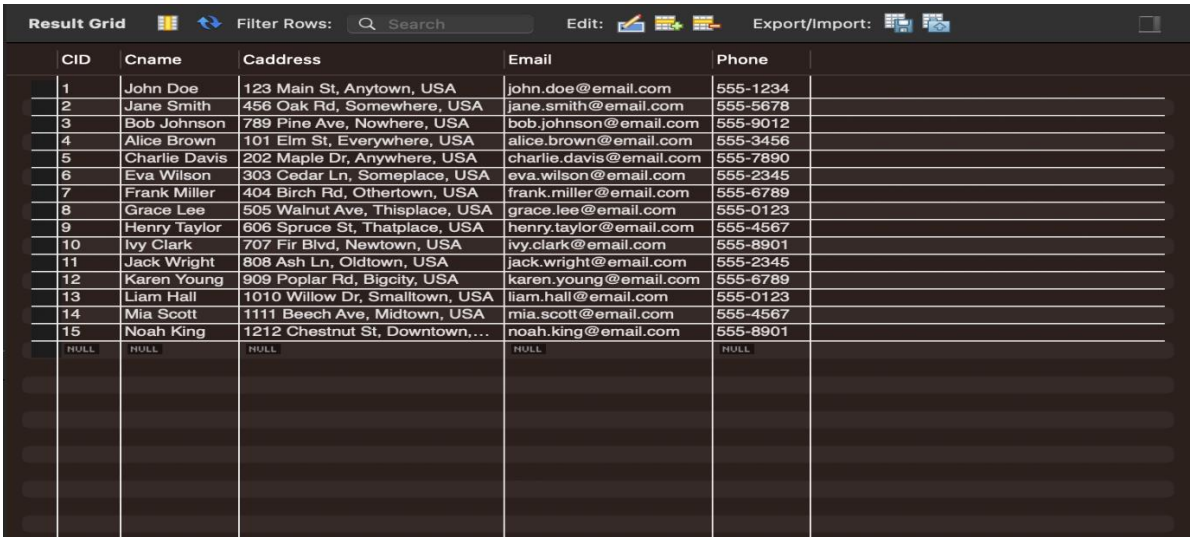
- **Create Customer Table**

```
CREATE TABLE Customer (
    CID INT PRIMARY KEY,
    Cname VARCHAR(100),
    Caddress VARCHAR(200),
    Email VARCHAR(100),
    Phone VARCHAR(20)
);
```

- **Insert** values in **Customer** table –

```
INSERT INTO Customer (CID, Cname, Caddress, Email, Phone) VALUES
(1, 'John Doe', '123 Main St, Anytown, USA', 'john.doe@email.com', '555-1234'),
(2, 'Jane Smith', '456 Oak Rd, Somewhere, USA', 'jane.smith@email.com', '555-5678'),
(3, 'Bob Johnson', '789 Pine Ave, Nowhere, USA', 'bob.johnson@email.com', '555-9012'),
(4, 'Alice Brown', '101 Elm St, Everywhere, USA', 'alice.brown@email.com', '555-3456'),
(5, 'Charlie Davis', '202 Maple Dr, Anywhere, USA', 'charlie.davis@email.com', '555-7890'),
(6, 'Eva Wilson', '303 Cedar Ln, Someplace, USA', 'eva.wilson@email.com', '555-2345'),
(7, 'Frank Miller', '404 Birch Rd, Othertown, USA', 'frank.miller@email.com', '555-6789'),
(8, 'Grace Lee', '505 Walnut Ave, Thisplace, USA', 'grace.lee@email.com', '555-0123'),
(9, 'Henry Taylor', '606 Spruce St, Thatplace, USA', 'henry.taylor@email.com', '555-4567'),
(10, 'Ivy Clark', '707 Fir Blvd, Newtown, USA', 'ivy.clark@email.com', '555-8901'),
(11, 'Jack Wright', '808 Ash Ln, Oldtown, USA', 'jack.wright@email.com', '555-2345'),
(12, 'Karen Young', '909 Poplar Rd, Bigcity, USA', 'karen.young@email.com', '555-6789'),
(13, 'Liam Hall', '1010 Willow Dr, Smalltown, USA', 'liam.hall@email.com', '555-0123'),
(14, 'Mia Scott', '1111 Beech Ave, Midtown, USA', 'mia.scott@email.com', '555-4567'),
(15, 'Noah King', '1212 Chestnut St, Downtown, USA', 'noah.king@email.com', '555-8901');
```

- **Output**



CID	Cname	Caddress	Email	Phone
1	John Doe	123 Main St, Anytown, USA	john.doe@email.com	555-1234
2	Jane Smith	456 Oak Rd, Somewhere, USA	jane.smith@email.com	555-5678
3	Bob Johnson	789 Pine Ave, Nowhere, USA	bob.johnson@email.com	555-9012
4	Alice Brown	101 Elm St, Everywhere, USA	alice.brown@email.com	555-3456
5	Charlie Davis	202 Maple Dr, Anywhere, USA	charlie.davis@email.com	555-7890
6	Eva Wilson	303 Cedar Ln, Someplace, USA	eva.wilson@email.com	555-2345
7	Frank Miller	404 Birch Rd, Othertown, USA	frank.miller@email.com	555-6789
8	Grace Lee	505 Walnut Ave, Thisplace, USA	grace.lee@email.com	555-0123
9	Henry Taylor	606 Spruce St, Thatplace, USA	henry.taylor@email.com	555-4567
10	Ivy Clark	707 Fir Blvd, Newtown, USA	ivy.clark@email.com	555-8901
11	Jack Wright	808 Ash Ln, Oldtown, USA	jack.wright@email.com	555-2345
12	Karen Young	909 Poplar Rd, Bigcity, USA	karen.young@email.com	555-6789
13	Liam Hall	1010 Willow Dr, Smalltown, USA	liam.hall@email.com	555-0123
14	Mia Scott	1111 Beech Ave, Midtown, USA	mia.scott@email.com	555-4567
15	Noah King	1212 Chestnut St, Downtown,...	noah.king@email.com	555-8901
NULL	NULL	NULL	NULL	NULL

6. Sale:

- **Create Sale Table**

```
CREATE TABLE Sale (
    SID INT PRIMARY KEY,
    CID INT,
    sale_date DATE,
    Stotal_amount DECIMAL(10, 2),
    FOREIGN KEY (CID) REFERENCES Customer(CID)
);
```

- **Insert** values in **Sale** table –

```
INSERT INTO Sale (SID, CID, sale_date, Stotal_amount) VALUES
(1, 1, '2024-09-16', 999.99),
(2, 2, '2024-09-17', 599.99),
(3, 3, '2024-09-18', 149.99),
(4, 4, '2024-09-19', 79.99),
(5, 5, '2024-09-20', 89.99),
(6, 6, '2024-09-21', 49.99),
(7, 7, '2024-09-22', 299.99),
(8, 8, '2024-09-23', 129.99),
(9, 9, '2024-09-24', 29.99),
(10, 10, '2024-09-25', 89.99),
(11, 11, '2024-09-26', 179.99),
(12, 12, '2024-09-27', 69.99),
(13, 13, '2024-09-28', 79.99),
(14, 14, '2024-09-29', 249.99),
(15, 15, '2024-09-30', 99.99);
```

- **Output**

SID	CID	sale_date	Stotal_amou...
1	1	2024-09-16	999.99
2	2	2024-09-17	599.99
3	3	2024-09-18	149.99
4	4	2024-09-19	79.99
5	5	2024-09-20	89.99
6	6	2024-09-21	49.99
7	7	2024-09-22	299.99
8	8	2024-09-23	129.99
9	9	2024-09-24	29.99
10	10	2024-09-25	89.99
11	11	2024-09-26	179.99
12	12	2024-09-27	69.99
13	13	2024-09-28	79.99
14	14	2024-09-29	249.99
15	15	2024-09-30	99.99
NULL	NULL	NULL	NULL

7. Sale_Details:

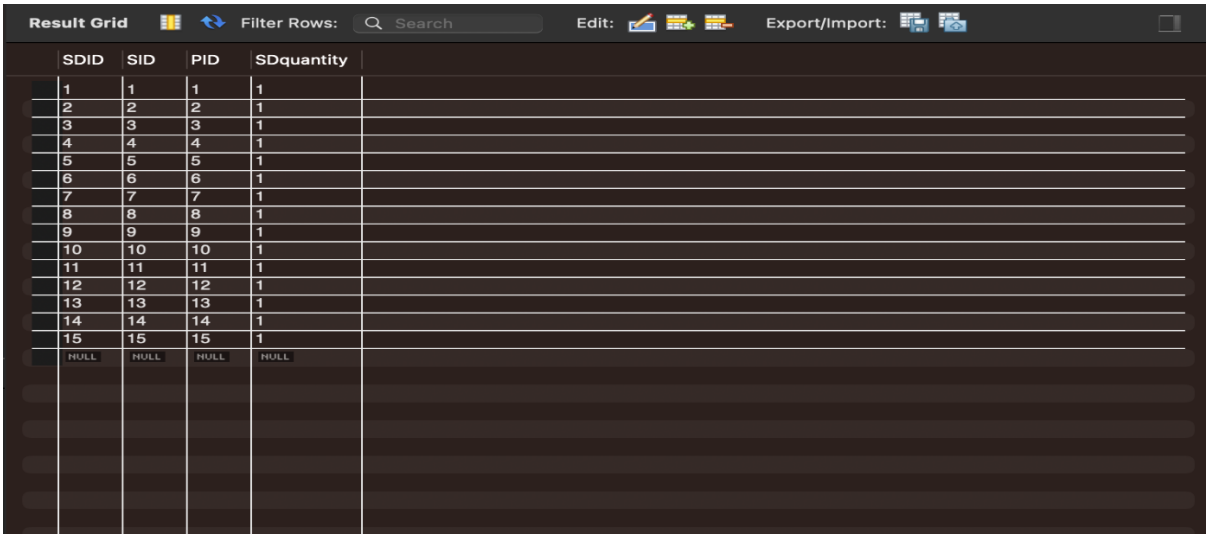
- **Create Sale_Details Table**

```
CREATE TABLE Sale_Details (
    SDID INT PRIMARY KEY,
    SID INT,
    PID INT,
    SDquantity INT,
    FOREIGN KEY (SID) REFERENCES Sale(SID),
    FOREIGN KEY (PID) REFERENCES Product(PID)
);
```

- **Insert** values in **Sale_Details** table –

```
INSERT INTO Sale_Details (SDID, SID, PID, SDquantity) VALUES
(1, 1, 1, 1),
(2, 2, 2, 1),
(3, 3, 3, 1),
(4, 4, 4, 1),
(5, 5, 5, 1),
(6, 6, 6, 1),
(7, 7, 7, 1),
(8, 8, 8, 1),
(9, 9, 9, 1),
(10, 10, 10, 1),
(11, 11, 11, 1),
(12, 12, 12, 1),
(13, 13, 13, 1),
(14, 14, 14, 1),
(15, 15, 15, 1);
```

- **Output**



SDID	SID	PID	SDquantity
1	1	1	1
2	2	2	1
3	3	3	1
4	4	4	1
5	5	5	1
6	6	6	1
7	7	7	1
8	8	8	1
9	9	9	1
10	10	10	1
11	11	11	1
12	12	12	1
13	13	13	1
14	14	14	1
15	15	15	1
NULL	NULL	NULL	NULL

8. Warehouse:

- **Create Warehouse Table**

```
CREATE TABLE Warehouse (
    WID INT PRIMARY KEY,
    location VARCHAR(100),
    Wcapacity INT
);
```

- **Insert** values in **Warehouse** table –

```
INSERT INTO Warehouse (WID, location, Wcapacity) VALUES
(1, 'New York', 10000),
(2, 'Los Angeles', 15000),
(3, 'Chicago', 12000),
(4, 'Houston', 8000),
(5, 'Phoenix', 9000),
(6, 'Philadelphia', 7000),
(7, 'San Antonio', 11000),
(8, 'San Diego', 13000),
(9, 'Dallas', 14000),
(10, 'San Jose', 6000),
(11, 'Austin', 10000),
(12, 'Jacksonville', 8000),
(13, 'Fort Worth', 9000),
(14, 'Columbus', 7000),
(15, 'San Francisco', 12000);
```

- **Output**

Result Grid | Filter Rows: Search | Edit: | Export/Import:

WID	location	Wcapacity
1	New York	10000
2	Los Angeles	15000
3	Chicago	12000
4	Houston	8000
5	Phoenix	9000
6	Philadelphia	7000
7	San Antonio	11000
8	San Diego	13000
9	Dallas	14000
10	San Jose	6000
11	Austin	10000
12	Jacksonville	8000
13	Fort Worth	9000
14	Columbus	7000
15	San Franci...	12000
NULL	NULL	NULL

9. Inventory_Stock:

- **Create Inventory_Stock Table**

```
CREATE TABLE Inventory_Stock (
    ISID INT PRIMARY KEY,
    PID INT,
    WID INT,
    Iquantity INT,
    FOREIGN KEY (PID) REFERENCES Product(PID),
    FOREIGN KEY (WID) REFERENCES Warehouse(WID)
);
```

- **Insert** values in **Inventory_Stock** table –

```
INSERT INTO Inventory_Stock (ISID, PID, WID, Iquantity) VALUES
(1, 1, 1, 50),
(2, 2, 2, 100),
(3, 3, 3, 30),
(4, 4, 4, 40),
(5, 5, 5, 75),
(6, 6, 6, 60),
(7, 7, 7, 20),
(8, 8, 8, 35),
(9, 9, 9, 100),
(10, 10, 10, 55),
(11, 11, 11, 25),
(12, 12, 12, 45),
(13, 13, 13, 80),
(14, 14, 14, 15),
(15, 15, 15, 50);
```

- **Output**

Result Grid | Filter Rows: Search | Edit: | Export/Import:

ISID	PID	WID	Iquantity
1	1	1	50
2	2	2	100
3	3	3	30
4	4	4	40
5	5	5	75
6	6	6	60
7	7	7	20
8	8	8	35
9	9	9	100
10	10	10	55
11	11	11	25
12	12	12	45
13	13	13	80
14	14	14	15
15	15	15	50
NULL	NULL	NULL	NULL

Step 3:

Create indexes to improve query performance:

1. Product table

- Input and output -

```
-- Product table
CREATE INDEX idx_product_category ON Product(Pcategory);
CREATE INDEX idx_product_name ON Product(Pname);
Show index from Product;
```

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

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment	Visible	Expression
product	0	PRIMARY	1	PID	A	15	NULL	NULL		BTREE			YES	NULL
product	1	idx_product_category	1	Pcategory	A	4	NULL	NULL	YES	BTREE			YES	NULL
product	1	idx_product_name	1	Pname	A	15	NULL	NULL	YES	BTREE			YES	NULL

2. Supplier table

- Input and output –

```
-- Supplier table
CREATE INDEX idx_supplier_name ON Supplier(Sname);
Show index from Supplier;
```

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

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment	Visible	Expression
supplier	0	PRIMARY	1	SUPID	A	13	NULL	NULL		BTREE			YES	NULL
supplier	1	idx_supplier_name	1	Sname	A	15	NULL	NULL	YES	BTREE			YES	NULL

3. Order table

- Input and output –

```
-- Order table
CREATE INDEX idx_order_date ON `Order`(order_date);
CREATE INDEX idx_order_supplier ON `Order`(SUPID);
Show index from `Order`;
```

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

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment	Visible	Expression
order	0	PRIMARY	1	OID	A	15	NULL	NULL		BTREE			YES	NULL
order	1	idx_order_date	1	order_date	A	15	NULL	NULL	YES	BTREE			YES	NULL
order	1	idx_order_supplier	1	SUPID	A	15	NULL	NULL	YES	BTREE			YES	NULL

4. Order_Details table

- Input and output –

```
14    -- Order_Details table
15 •  CREATE INDEX idx_order_details_order ON Order_Details(OID);
16 •  CREATE INDEX idx_order_details_product ON Order_Details(PID);
17 •  Show index from order_details;
18
```

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

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment	Visible	Expression
order_details	0	PRIMARY	1	ODID	A	15	NULL	NULL		BTREE			YES	NULL
order_details	1	idx_order_details_order	1	OID	A	15	NULL	NULL	YES	BTREE			YES	NULL
order_details	1	idx_order_details_product	1	PID	A	15	NULL	NULL	YES	BTREE			YES	NULL

5. Customer table

- Input and output –

```
19    -- Customer table
20 •  CREATE INDEX idx_customer_name ON Customer(Cname);
21 •  CREATE INDEX idx_customer_email ON Customer(Email);
22 •  Show index from customer;
```

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

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment	Visible	Expression
customer	0	PRIMARY	1	CID	A	15	NULL	NULL		BTREE			YES	NULL
customer	1	idx_customer_name	1	Cname	A	15	NULL	NULL	YES	BTREE			YES	NULL
customer	1	idx_customer_email	1	Email	A	15	NULL	NULL	YES	BTREE			YES	NULL

6. Sales table

- Input and output –

```
24    -- Sale table
25 •  CREATE INDEX idx_sale_date ON Sale(sale_date);
26 •  CREATE INDEX idx_sale_customer ON Sale(CID);
27 •  Show index from sale;
```

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

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment	Visible	Expression
sale	0	PRIMARY	1	SID	A	15	NULL	NULL		BTREE			YES	NULL
sale	1	idx_sale_date	1	sale_date	A	15	NULL	NULL	YES	BTREE			YES	NULL
sale	1	idx_sale_customer	1	CID	A	15	NULL	NULL	YES	BTREE			YES	NULL

7. Sale_details table

- Input and output –

```
29    -- Sale_Details table
30 •  CREATE INDEX idx_sale_details_sale ON Sale_Details(SID);
31 •  CREATE INDEX idx_sale_details_product ON Sale_Details(PID);
32 •  Show index from sale_details;
```

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

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment	Visible	Expression
sale_details	0	PRIMARY	1	SDID	A	15	NULL	NULL		BTREE			YES	NULL
sale_details	1	idx_sale_details_sale	1	SID	A	15	NULL	NULL	YES	BTREE			YES	NULL
sale_details	1	idx_sale_details_product	1	PID	A	15	NULL	NULL	YES	BTREE			YES	NULL

8. Warehouse table

- Input and output –

```
34    -- Warehouse table
35 •  CREATE INDEX idx_warehouse_location ON Warehouse(location);
36 •  Show index from warehouse;
37
```

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

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment	Visible	Expression
warehouse	0	PRIMARY	1	WID	A	15	NULL	NULL		BTREE			YES	NULL
warehouse	1	idx_warehouse_location	1	location	A	15	NULL	NULL	YES	BTREE			YES	NULL

9. Sales table

- Input and output –

```
38    -- Inventory_Stock table
39 •  CREATE INDEX idx_inventory_stock_product ON Inventory_Stock(PID);
40 •  CREATE INDEX idx_inventory_stock_warehouse ON Inventory_Stock(WID);
41 •  Show index from inventory_stock;
```

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

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment	Visible	Expression
inventory_stock	0	PRIMARY	1	ISID	A	15	NULL	NULL		BTREE			YES	NULL
inventory_stock	1	idx_inventory_stock_product	1	PID	A	15	NULL	NULL	YES	BTREE			YES	NULL
inventory_stock	1	idx_inventory_stock_warehouse	1	WID	A	15	NULL	NULL	YES	BTREE			YES	NULL

Step 4: View

1. Product Inventory View

```
43 •  CREATE VIEW ProductInventoryView AS
44    SELECT p.PID, p.Pname, p.Pcategory, w.WID, w.location, inv.Iquantity
45    FROM Product p
46    JOIN Inventory_Stock inv ON p.PID = inv.PID
47    JOIN Warehouse w ON inv.WID = w.WID;
48 •  Select * from ProductInventoryView;
```

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

PID	Pname	Pcategory	WID	location	Iquantity
1	Laptop	Electronics	1	New York	50
2	Smartphone	Electronics	2	Los Angeles	100
3	Desk Chair	Furniture	3	Chicago	30
4	Coffee Maker	Appliances	4	Houston	40
5	Running Shoes	Sportswear	5	Phoenix	75
6	Bluetooth Speaker	Electronics	6	Philadelphia	60
7	Dining Table	Furniture	7	San Antonio	20
8	Microwave Oven	Appliances	8	San Diego	35
9	Yoga Mat	Sportswear	9	Dallas	100
10	External Hard Drive	Electronics	10	San Jose	55
11	Bookshelf	Furniture	11	Austin	25
12	Blender	Appliances	12	Jacksonville	45
13	Fitness Tracker	Electronics	13	Fort Worth	80
14	Office Desk	Furniture	14	Columbus	15
15	Air Fryer	Appliances	15	San Francisco	50

2. Supplier Order History View

```
50 •  CREATE VIEW SupplierOrderHistoryView AS
51    SELECT s.SUPID, s.Sname, o.OID, o.order_date, p.PID, p.Pname, od.ODquantity
52    FROM Supplier s
53    JOIN `Order` o ON s.SUPID = o.SUPID
54    JOIN Order_Details od ON o.OID = od.OID
55    JOIN Product p ON od.PID = p.PID;
56 •  Select * from SupplierOrderHistoryView;
```

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

SUPID	Sname	OID	order_date	PID	Pname	ODquantity
4	Appliance Depot	4	2024-09-04	4	Coffee Maker	20
12	Comfort Living	12	2024-09-12	12	Blender	20
14	Eco Friendly Goods	14	2024-09-14	14	Office Desk	20
6	Electronics Emporium	6	2024-09-06	6	Bluetooth Speaker	20
9	Fitness Fanatics	9	2024-09-09	9	Yoga Mat	20
3	Furniture World	3	2024-09-03	3	Desk Chair	20
13	Gadget Galaxy	13	2024-09-13	13	Fitness Tracker	20
2	Global Gadgets	2	2024-09-02	2	Smartphone	10
7	Home Essentials	7	2024-09-07	7	Dining Table	20
10	Kitchen Wonders	10	2024-09-10	10	External Hard Drive	20
8	Office Solutions	8	2024-09-08	8	Microwave Oven	20
15	Smart Home Solutions	15	2024-09-15	15	Air Fryer	20
5	Sports Gear Co.	5	2024-09-05	5	Running Shoes	20
11	Tech Innovators	11	2024-09-11	11	Bookshelf	20
1	Tech Supplies Inc.	1	2024-09-01	1	Laptop	10

3. Customer Purchase History View

```
58 •  CREATE VIEW CustomerPurchaseHistoryView AS
59    SELECT c.CID, c.Cname, s.SID, s.sale_date, p.PID, p.Pname, sd.SDquantity
60    FROM Customer c
61    JOIN Sale s ON c.CID = s.CID
62    JOIN Sale_Details sd ON s.SID = sd.SID
63    JOIN Product p ON sd.PID = p.PID;
64 •  Select * from CustomerPurchaseHistoryView;
```

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

CID	Cname	SID	sale_date	PID	Pname	SDquantity
4	Alice Brown	4	2024-09-19	4	Coffee Maker	1
3	Bob Johnson	3	2024-09-18	3	Desk Chair	1
5	Charlie Davis	5	2024-09-20	5	Running Shoes	1
6	Eva Wilson	6	2024-09-21	6	Bluetooth Speaker	1
7	Frank Miller	7	2024-09-22	7	Dining Table	1
8	Grace Lee	8	2024-09-23	8	Microwave Oven	1
9	Henry Taylor	9	2024-09-24	9	Yoga Mat	1
10	Ivy Clark	10	2024-09-25	10	External Hard Drive	1
11	Jack Wright	11	2024-09-26	11	Bookshelf	1
2	Jane Smith	2	2024-09-17	2	Smartphone	1
1	John Doe	1	2024-09-16	1	Laptop	1
12	Karen Young	12	2024-09-27	12	Blender	1
13	Liam Hall	13	2024-09-28	13	Fitness Tracker	1
14	Mia Scott	14	2024-09-29	14	Office Desk	1
15	Noah King	15	2024-09-30	15	Air Fryer	1

4. Low Stock Products View

```
66 •  CREATE VIEW LowStockProductsView AS
67    SELECT p.PID, p.Pname, p.Pcategory, p.Pstock_quantity
68    FROM Product p
69    WHERE p.Pstock_quantity < 10;
70 •  Select * from LowStockProductsView;
```

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

PID	Pname	Pcategory	Pstock_quantity

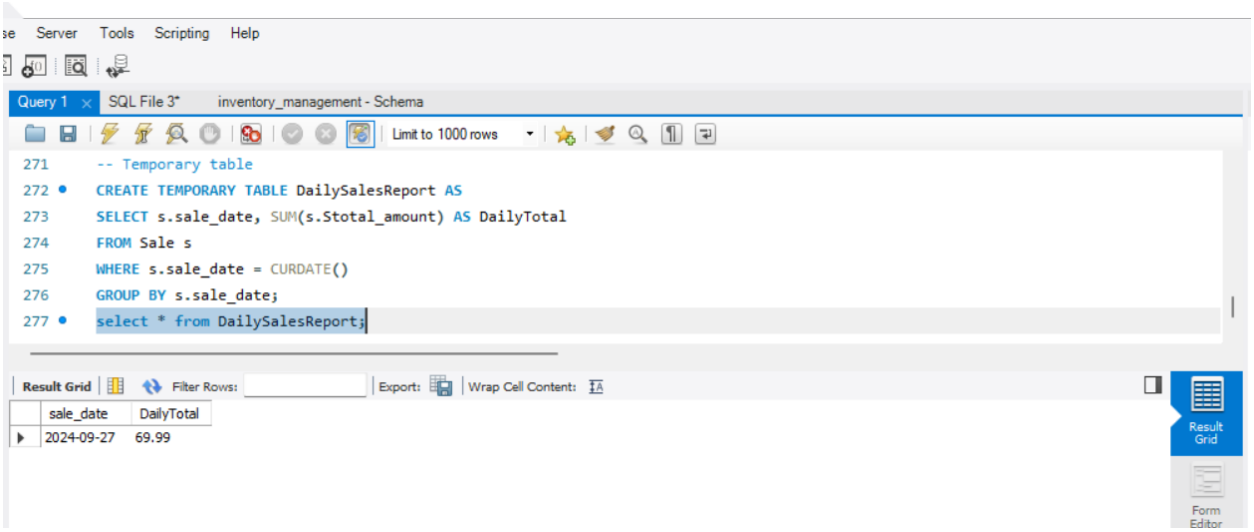
5. Warehouse Capacity View

```
72 •  CREATE VIEW WarehouseCapacityView AS
73    SELECT w.WID, w.location, w.Wcapacity, COUNT(inv.PID) AS ProductCount
74    FROM Warehouse w
75    LEFT JOIN Inventory_Stock inv ON w.WID = inv.WID
76    GROUP BY w.WID, w.location, w.Wcapacity;
77 •  select * from WarehouseCapacityView ;
78
```

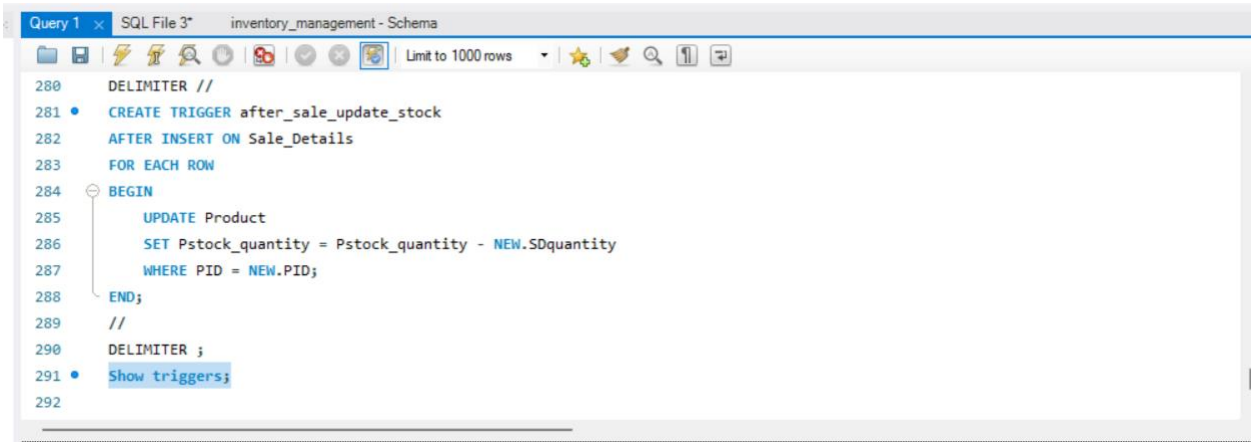
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

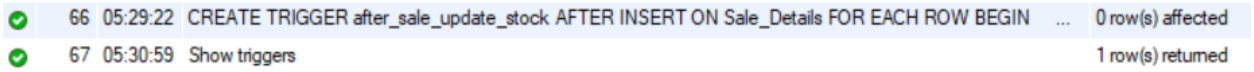
WID	location	Wcapacity	ProductCount
1	New York	10000	1
2	Los Angeles	15000	1
3	Chicago	12000	1
4	Houston	8000	1
5	Phoenix	9000	1
6	Philadelphia	7000	1
7	San Antonio	11000	1
8	San Diego	13000	1
9	Dallas	14000	1
10	San Jose	6000	1
11	Austin	10000	1
12	Jacksonville	8000	1
13	Fort Worth	9000	1
14	Columbus	7000	1
15	San Francisco	12000	1

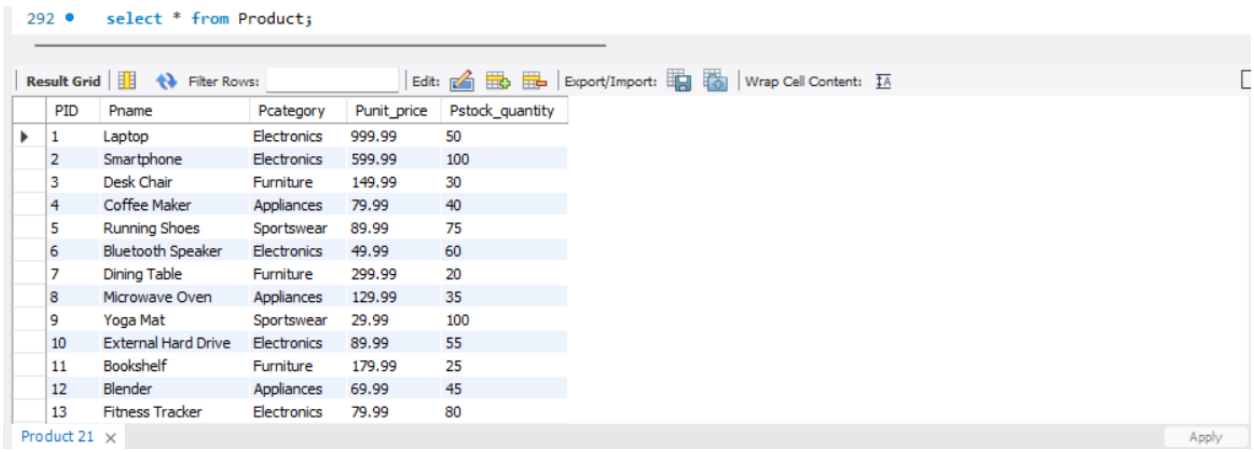
STEP 5: Temporary Table



Step 6: Triggers







STEP 7: Functions