DATABASE MANAGEMENT

SYSTEM PROJECT

PROJECT: INVENTORY MANAGEMENT

BY:

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PROBLEM STATEMENT:

Project purpose:

In inventory management, "inventory" refers to the goods and materials that a business holds for the purpose of resale or use in its operations. These items can include raw materials, work-in-progress , and finished goods ready for sale. Inventory is a crucial aspect of operations for many businesses, as it represents a significant portion of their assets and ties up capital. the goal of inventory management is to ensure that a business has the right amount of inventory on hand at the right time to meet customer needs, without incurring unnecessary costs or tying up excessive capital in inventory.

Project Scope:

The scope of this project includes designing and implementing a database schema to store information about inventory items, including their names, quantities, prices, and suppliers. The system will allow users to add, update, delete, and search for inventory items.

ASSUMPTIONS:

SUPPLIER TABLE:

The Suppliers table serves as a repository for supplier information. Each supplier is uniquely identified by a Supplier_ID, which acts as the primary key. Attributes such as Name, email_id and phone_number are stored to provide comprehensive supplier details.

RAW MATERIALS:

The RawMaterials table contains information about the raw materials supplied by the vendors. Each raw material is identified by a Material_ID, which serves as the primary key. Details such as Description, Unit_Price, Quantity, and the Supplier_ID (foreign key) referencing the Suppliers table are stored to track the characteristics and availability of raw materials.

STORAGE:

The Storage table stores data regarding the storage facilities used to house inventory items. Each storage location is uniquely identified by a Storage_ID, serving as the primary key. Attributes like Location, Capacity, and Type provide essential details about each storage facility.

INVENTORY:

The Inventory table plays a crucial role in tracking the inventory of items stored in various storage locations. Each inventory item is identified by an Inventory_ID, which serves as the primary key. Foreign keys such as Item_ID (referencing the Items table) and Storage_ID (referencing the Storage table) establish relationships with other tables. The Quantity attribute indicates the quantity of each item available in inventory.

ITEMS:

The Items table contains information about the different items available in the inventory. Each item is uniquely identified by an Item_ID, serving as the primary key. Attributes like Name, Description, and Category provide descriptive details about each item.

ORDER:

The Order table is responsible for managing customer orders placed with suppliers. Each order is identified by an Order_ID, serving as the primary key. Attributes such as Date and Total_Price track order-related information, while the Supplier_ID (foreign key) establishes the relationship with the Suppliers table.

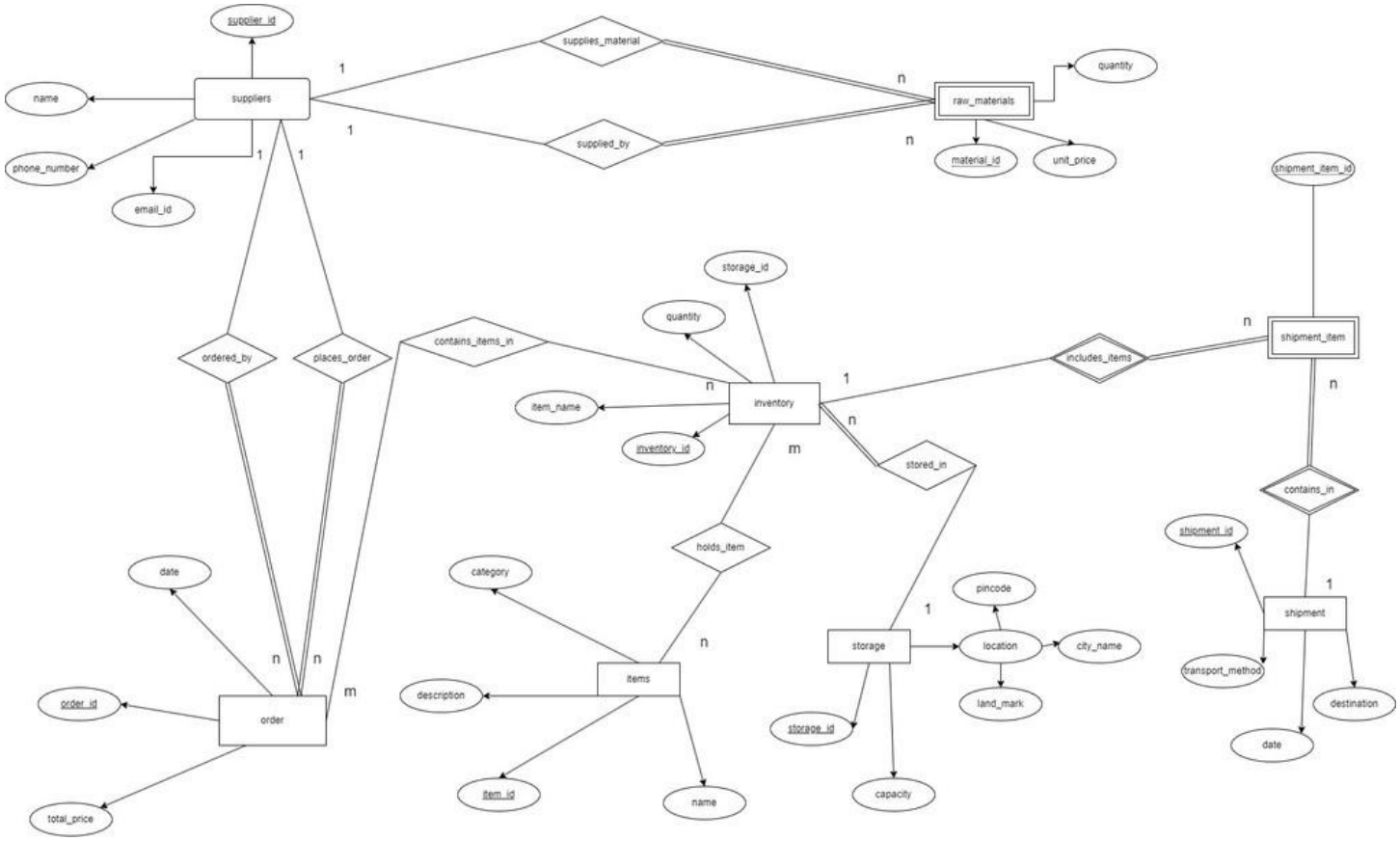
SHIPMENT:

The Shipment table stores data about shipments of goods from suppliers to customers or between different locations. Each shipment is identified by a Shipment_ID, serving as the primary key. Details such as Date, Transport_Method, and Destination provide essential information about each shipment.

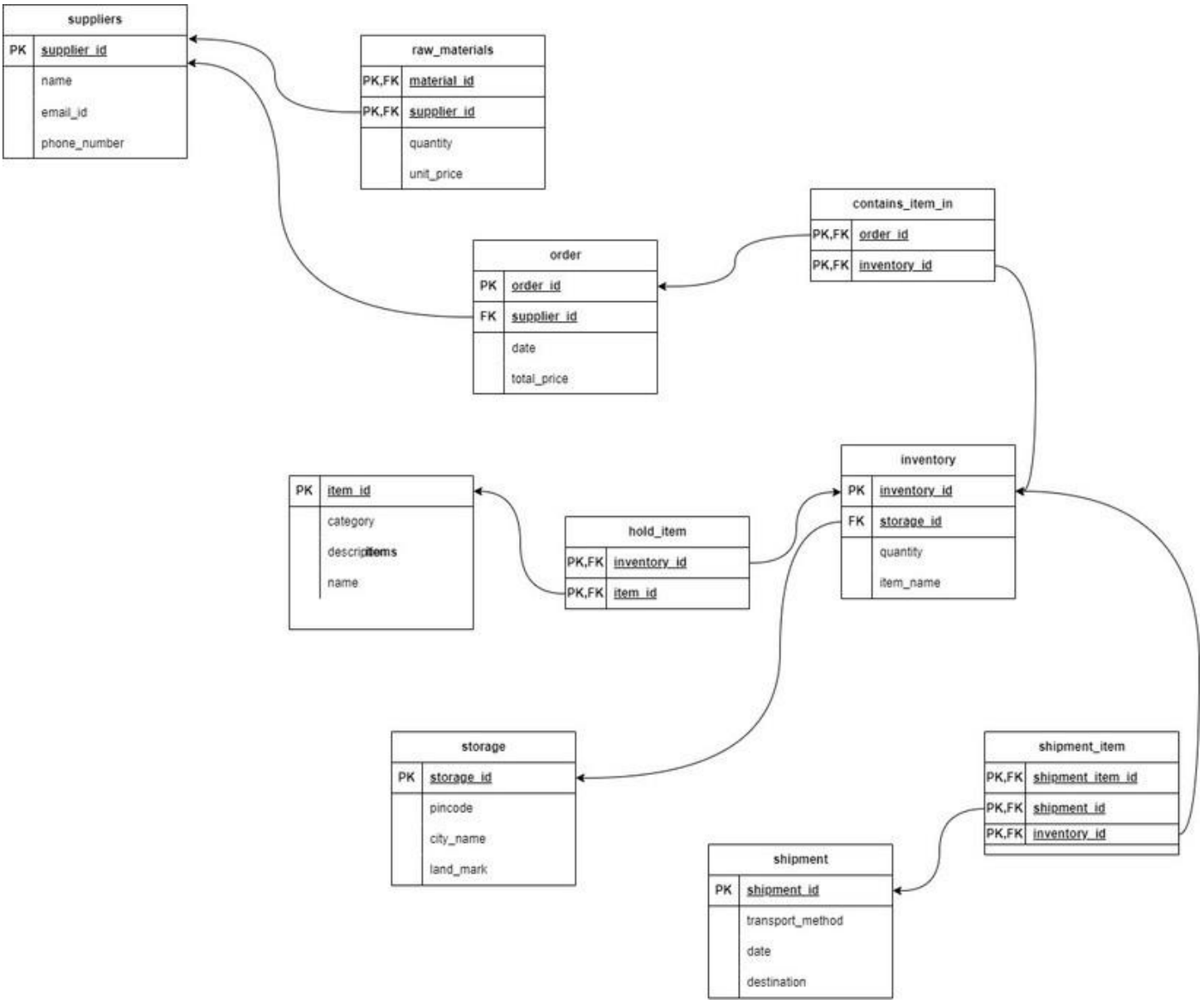
SHIPMENT_ITEM:

The Shipment_Item table facilitates the tracking of individual items within shipments. Each shipment item is identified by a Shipment_Item_ID, serving as the primary key. Foreign keys such as Shipment_ID (referencing the Shipment table) and Inventory_ID (referencing the Inventory table) establish relationships with other tables. The Quantity attribute indicates the quantity of each item included in the shipment.

ENTITY RELATIONSHIP DIAGRAM :



RELATIONAL SCHEMA:



FUNCTIONAL DEPENDENCIES AND TABLES BEFORE NORMALIZATION:

1) Suppliers:

(Supplier_ID ,Name, email_id,phone_number)

Functional Dependency: Supplier_ID → Name, Address, Contact_Info

Normal Form: BCNF

2) RawMaterials:

(Material_ID,Description, Unit_Price, Quantity,Supplier_ID)

Functional Dependency: Material_ID → Description, Unit_Price, Quantity, Supplier_ID

Normal Form: BCNF

3) Storage:

(Storage_ID,Location, Capacity, Type)

Functional Dependency: Storage_ID → Location, Capacity, Type

Normal Form: BCNF

4) Inventory:

(Inventory_ID,Item_ID, Quantity, Storage_ID)

Functional Dependency: Inventory_ID → Item_ID, Quantity, Storage_ID

Normal Form: BCNF

5) Items:

(Item_ID , Name, Description, Category)

Functional Dependency: Item_ID → Name, Description, Category

Normal Form: BCNF

6) Order:

(Order_ID ,Date, Total_Price, Supplier_ID)

Functional Dependency: Order_ID → Date, Total_Price, Supplier_ID

Normal Form: BCNF

7) Shipment_Item:

(Shipment_Item_ID,Shipment_ID,Inventory_ID,Quantity,Date,Transport_Metho d,Destination,Order_ID)

Functional Dependency:

Shipment_Item_ID → Shipment_ID, Inventory_ID, Quantity

Shipment_ID → Date, Transport_Method, Destination, Order_ID

Normal Form:3nf (not in BCNF)

Here, we can observe a violation of BCNF because attributes like Date, Transport_Method, Destination, and Order_ID are not fully functionally dependent on the primary key Shipment_Item_ID. These attributes are only dependent on Shipment_ID.

FUNCTIONALDEPENDENCIESANDTABLES AFTER NORMALIZATION

1) Suppliers:

(Supplier_ID ,Name, email_id,phone_number)

Functional Dependency: Supplier_ID → Name, Address, Contact_Info

Normal Form: BCNF

2) RawMaterials:

(Material_ID,Description, Unit_Price, Quantity,Supplier_ID)

Functional Dependency: Material_ID → Description, Unit_Price, Quantity, Supplier_ID

Normal Form: BCNF

3) Storage:

(Storage_ID,Location, Capacity, Type)

Functional Dependency: Storage_ID → Location, Capacity, Type

Normal Form: BCNF

4) Inventory:

(Inventory_ID,Item_ID, Quantity, Storage_ID)

Functional Dependency: Inventory_ID → Item_ID, Quantity, Storage_ID

Normal Form: BCNF

5) Items:

(Item_ID , Name, Description, Category)

Functional Dependency: Item_ID → Name, Description, Category

Normal Form: BCNF

6) Order:

(Order_ID ,Date, Total_Price, Supplier_ID)

Functional Dependency: Order_ID → Date, Total_Price, Supplier_ID

Normal Form: BCNF

7) Shipment_Item:

after normalization table decomposes into shipment_item,shipment

shipment:

(Shipment_ID , Date, Transport_Method, Destination, Order_ID)

Functional Dependency:

Shipment_ID → Date, Transport_Method, Destination, Order_ID

Normal Form:BCNF

8) shipment_item:

(Shipment_Item_ID , Shipment_ID, Inventory_ID, Quantity)

Functional Dependency:

Shipment_Item_ID → Shipment_ID, Inventory_ID, Quantity

Normal Form:BCNF

```
create table suppliers (
   supplier_id int primary key,
   name varchar(20),
   email varchar(20),
   phone_no int
);

create table raw_materials (
   material_id int not null,
   unit_price int,
   quantity int,
   supplier_id int,
   primary  key(material_id,  supplier_id),
   constraint fk_supplier_id foreign key(supplier_id) references
suppliers(supplier_id)
);

create table orders(
```

```
   order_id int primary key,
   order_date date,
   total_price int,
   suppliers_id int,
   constraint fk_suppliers_id foreign key(suppliers_id) references
suppliers(supplier_id)
);

create table storage (
   storage_id int primary key,
   pincode int,
   land_mark varchar(20),
   city_name varchar(20)
);

create table inventory(
   inventory_id int primary key,
   item_name varchar(20),
   quantity int,
   storage_id int,
   constraint fk_storage_id foreign key(storage_id) references
storage(storage_id)
);
```

```
create table hold_item (
   invento_id int,
   item_id int,
   primary key(invento_id, item_id),
   constraint fk_item_id foreign key(item_id) references items(item_id),
   constraint fk_invento_id foreign key(invento_id) references
inventory(inventory_id)
);

create table items (
   item_id int primary key,
   description varchar(20),
   category varchar(20),
   name varchar(20)
);

create table hold_item (
   inventory_id int,
   item_id int,
   primary key(inventory_id, item_id),
   constraint fk_item_id foreign key(item_id) references items(item_id),
   constraint fk_inventory_id foreign key(inventory_id) references
inventory(inventory_id)
);
```

```
create table shipment(
   shipment_id int primary key,
   ship_date date,
   transport_method varchar(50),
   destination varchar(50)
);

create table shipment_item(
   shipment_item_id int not null,
   invent_id int,
   shipment_id  int,
   primary key(shipment_item_id, invent_id, shipment_id),
   constraint fk_invent_id foreign key(invent_id) references
inventory(inventory_id),
   constraint fk_shipment_id foreign key(shipment_id) references
shipment(shipment_id)
);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(1, 'Supplier A1', 'a1@example.com', 1000000001);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(2,  'Supplier  A2',  'a2@example.com',  1000000002);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
```

(3, 'Supplier A3', 'a3@example.com', 1000000003);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(4, 'Supplier A4', 'a4@example.com', 1000000004);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(5, 'Supplier A5', 'a5@example.com', 1000000005);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(6, 'Supplier A6', 'a6@example.com', 1000000006);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(7, 'Supplier A7', 'a7@example.com', 1000000007);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(8, 'Supplier A8', 'a8@example.com', 1000000008);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(9, 'Supplier A9', 'a9@example.com', 1000000009);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(10, 'Supplier A10', 'a10@example.com', 1000000010);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(11, 'Supplier B1', 'b1@example.com', 1000000011);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(12, 'Supplier B2', 'b2@example.com', 1000000012);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(13, 'Supplier B3', 'b3@example.com', 1000000013);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(14, 'Supplier B4', 'b4@example.com', 1000000014);

```
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(15, 'Supplier B5', 'b5@example.com', 1000000015);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(16, 'Supplier B6', 'b6@example.com', 1000000016);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(17, 'Supplier B7', 'b7@example.com', 1000000017);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(18, 'Supplier B8', 'b8@example.com', 1000000018);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(19,  'Supplier  B9',  'b9@example.com',  1000000019);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(20, 'Supplier B10', 'b10@example.com', 1000000020);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(21, 'Supplier C1', 'c1@example.com', 1000000021);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(22, 'Supplier C2', 'c2@example.com', 1000000022);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(23,  'Supplier  C3',  'c3@example.com',  1000000023);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(24, 'Supplier C4', 'c4@example.com', 1000000024);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
(25, 'Supplier C5', 'c5@example.com', 1000000025);
INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES
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(26, 'Supplier C6', 'c6@example.com', 1000000026);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(27, 'Supplier C7', 'c7@example.com', 1000000027);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(28, 'Supplier C8', 'c8@example.com', 1000000028);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(29, 'Supplier C9', 'c9@example.com', 1000000029);

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES

(30, 'Supplier C10', 'c10@example.com', 1000000030);

select * from suppliers;

SUPPLIER_ID	NAME	EMAIL	PHONE_NO
1	Supplier A1	a1@example.com	1000000001
2	Supplier A2	a2@example.com	1000000002
3	Supplier A3	a3@example.com	1000000003
4	Supplier A4	a4@example.com	1000000004
5	Supplier A5	a5@example.com	1000000005
6	Supplier A6	a6@example.com	1000000006

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(1, 105, 22, 1);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(31, 102, 2, 1);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(32, 10, 12, 1);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(33, 100, 22, 1);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(2, 110, 24, 2);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(3, 115, 26, 3);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(4, 120, 28, 4);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(5, 125, 30, 5);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(6, 130, 32, 6);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(7, 135, 34, 7);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(8, 140, 36, 8);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(9, 145, 38, 9);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(10, 150, 40, 10);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(11, 155, 42, 11);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(12, 160, 44, 12);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(13, 165, 46, 13);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(14, 170, 48, 14);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(15, 175, 50, 15);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(16, 180, 52, 16);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)

```
VALUES

(17, 185, 54, 17);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(18, 190, 56, 18);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(19, 195, 58, 19);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(20, 200, 60, 20);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(21, 205, 62, 21);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(22, 210, 64, 22);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(23, 215, 66, 23);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(24, 220, 68, 24);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id)
VALUES

(25, 225, 70, 25);
```

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(26, 230, 72, 26);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(27, 235, 74, 27);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(28, 240, 76, 28);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(29, 245, 78, 29);

INSERT INTO raw_materials (material_id, unit_price, quantity, supplier_id) VALUES

(30, 250, 80, 30);

select * from raw_materials;

MATERIAL_ID	UNIT_PRICE	QUANTITY	SUPPLIER_ID
1	105	100	1
2	110	24	2
3	115	26	3
4	120	28	4
5	125	30	5
6	130	32	6

```
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(1, 110001, 'Landmark 1', 'City 2');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(2, 110002, 'Landmark 2', 'City 3');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(3, 110003, 'Landmark 3', 'City 4');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(4, 110004, 'Landmark 4', 'City 5');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(5, 110005, 'Landmark 5', 'City 1');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(6, 110006, 'Landmark 6', 'City 2');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(7, 110007, 'Landmark 7', 'City 3');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(8, 110008, 'Landmark 8', 'City 4');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(9, 110009, 'Landmark 9', 'City 5');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(10, 110010, 'Landmark 10', 'City 1');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(11, 110011, 'Landmark 11', 'City 2');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
```

(12, 110012, 'Landmark 12', 'City 3');

INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES

(13, 110013, 'Landmark 13', 'City 4');

INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES

(14, 110014, 'Landmark 14', 'City 5');

INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES

(15, 110015, 'Landmark 15', 'City 1');

INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES

(16, 110016, 'Landmark 16', 'City 2');

INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES

(17, 110017, 'Landmark 17', 'City 3');

INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES

(18, 110018, 'Landmark 18', 'City 4');

INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES

(19, 110019, 'Landmark 19', 'City 5');

INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES

(20, 110020, 'Landmark 20', 'City 1');

INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES

(21, 110021, 'Landmark 21', 'City 2');

INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES

(22, 110022, 'Landmark 22', 'City 3');

INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES

(23, 110023, 'Landmark 23', 'City 4');

```
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(24, 110024, 'Landmark 24', 'City 5');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(25, 110025, 'Landmark 25', 'City 1');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(26, 110026, 'Landmark 26', 'City 2');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(27, 110027, 'Landmark 27', 'City 3');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(28, 110028, 'Landmark 28', 'City 4');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(29, 110029, 'Landmark 29', 'City 5');
INSERT INTO storage (storage_id, pincode, land_mark, city_name) VALUES
(30, 110030, 'Landmark 30', 'City 1');
```

```
select * from storage;
```

STORAGE_ID	PINCODE	LAND_MARK	CITY_NAME
1	110001	Landmark 1	City 2
2	110002	Landmark 2	City 3
3	110003	Landmark 3	City 4
4	110004	Landmark 4	City 5
5	110005	Landmark 5	City 1
6	110006	Landmark 6	City 2

```
INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(1, TO_DATE('2023-01-02', 'YYYY-MM-DD'), 515, 1);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(2, TO_DATE('2023-01-03', 'YYYY-MM-DD'), 530, 2);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(3, TO_DATE('2023-01-04', 'YYYY-MM-DD'), 545, 3);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(4, TO_DATE('2023-01-05', 'YYYY-MM-DD'), 560, 4);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(5, TO_DATE('2023-01-06', 'YYYY-MM-DD'), 575, 5);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(6, TO_DATE('2023-01-07', 'YYYY-MM-DD'), 590, 6);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES (7,
TO_DATE('2023-01-08', 'YYYY-MM-DD'), 605, 7);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(8, TO_DATE('2023-01-09', 'YYYY-MM-DD'), 620, 8);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(9, TO_DATE('2023-01-10', 'YYYY-MM-DD'), 635, 9);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(10, TO_DATE('2023-01-11', 'YYYY-MM-DD'), 650, 10);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(11, TO_DATE('2023-01-12', 'YYYY-MM-DD'), 665, 11);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(12, TO_DATE('2023-01-13', 'YYYY-MM-DD'), 680, 12);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(13, TO_DATE('2023-01-14', 'YYYY-MM-DD'), 695, 13);
```

```
INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(14, TO_DATE('2023-01-15', 'YYYY-MM-DD'), 710, 14);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(15, TO_DATE('2023-01-16', 'YYYY-MM-DD'), 725, 15);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(16, TO_DATE('2023-01-17', 'YYYY-MM-DD'), 740, 16);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(17, TO_DATE('2023-01-18', 'YYYY-MM-DD'), 755, 17);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(18, TO_DATE('2023-01-19', 'YYYY-MM-DD'), 770, 18);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(19, TO_DATE('2023-01-20', 'YYYY-MM-DD'), 785, 19);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(20, TO_DATE('2023-01-21', 'YYYY-MM-DD'), 800, 20);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(21, TO_DATE('2023-01-22', 'YYYY-MM-DD'), 815, 21);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(22, TO_DATE('2023-01-23', 'YYYY-MM-DD'), 830, 22);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(23, TO_DATE('2023-01-24', 'YYYY-MM-DD'), 845, 23);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(24, TO_DATE('2023-01-25', 'YYYY-MM-DD'), 860, 24);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(25, TO_DATE('2023-01-26', 'YYYY-MM-DD'), 875, 25);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(26, TO_DATE('2023-01-27', 'YYYY-MM-DD'), 890, 26);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES
(27, TO_DATE('2023-01-28', 'YYYY-MM-DD'), 905, 27);
```

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES (28, TO_DATE('2023-01-29', 'YYYY-MM-DD'), 920, 28);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES (29, TO_DATE('2023-01-30', 'YYYY-MM-DD'), 935, 29);

INSERT INTO orders (order_id, order_date, total_price, suppliers_id) VALUES (30, TO_DATE('2023-01-31', 'YYYY-MM-DD'), 950, 30);

select * from orders;

ORDER_ID	ORDER_DATE	TOTAL_PRICE	SUPPLIERS_ID
1	02-JAN-23	515	1
2	03-JAN-23	530	2
3	04-JAN-23	545	3
4	05-JAN-23	560	4
5	06-JAN-23	575	5
6	07-JAN-23	590	6

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id) VALUES (1, 'Item 1', 53, 1);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id) VALUES (2, 'Item 2', 56, 2);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id) VALUES (3, 'Item 3', 59, 3);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id) VALUES (4, 'Item 4', 62, 4);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id) VALUES (5, 'Item 5', 65, 5);

```
INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (6, 'Item 6', 68, 1);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (7, 'Item 7', 71, 2);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (8, 'Item 8', 74, 3);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (9, 'Item 9', 77, 4);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (10, 'Item 10', 80, 5);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (11, 'Item 11', 83, 1);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (12, 'Item 12', 86, 2);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (13, 'Item 13', 89, 3);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (14, 'Item 14', 92, 4);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (15, 'Item 15', 95, 5);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (16, 'Item 16', 98, 1);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (17, 'Item 17', 101, 2);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (18, 'Item 18', 104, 3);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (19, 'Item 19', 107, 4);
```

```
INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (20, 'Item 20', 110, 5);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (21, 'Item 21', 113, 1);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (22, 'Item 22', 116, 2);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (23, 'Item 23', 119, 3);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (24, 'Item 24', 122, 4);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (25, 'Item 25', 125, 5);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (26, 'Item 26', 128, 1);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (27, 'Item 27', 131, 2);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (28, 'Item 28', 134, 3);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (29, 'Item 29', 137, 4);

INSERT INTO inventory (inventory_id, item_name, quantity, storage_id)
VALUES (30, 'Item 30', 140, 5);


select * from inventory;
```

INVENTORY_ID	ITEM_NAME	QUANTITY	STORAGE_ID
1	Item 1	53	1
2	Item 2	56	2
3	Item 3	59	3
4	Item 4	62	4
5	Item 5	65	5
6	Item 6	68	1

```
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (1, 1);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (1, 2);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (1, 3);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (1, 4);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (1, 5);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (1, 6);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (1, 7);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (1, 8);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (1, 9);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (1, 10);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (2, 1);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (2, 2);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (2, 3);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (2, 4);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (2, 5);
```

```
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (2, 6);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (2, 7);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (2, 8);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (2, 9);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (2, 20);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (3, 1);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (3, 2);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (3, 3);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (3, 4);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (3, 5);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (3, 6);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (3, 7);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (3, 8);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (3, 9);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (3, 30);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (4, 1);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (4, 2);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (4, 3);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (4, 4);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (4, 5);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (4, 6);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (4, 7);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (4, 8);
```

```
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (4, 9);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (4, 10);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (5, 1);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (5, 2);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (5, 3);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (5, 4);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (5, 5);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (5, 6);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (5, 7);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (5, 8);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (5, 9);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (5, 10);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (6, 1);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (6, 2);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (6, 3);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (6, 4);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (6, 5);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (6, 6);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (6, 7);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (6, 8);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (6, 9);
INSERT INTO contains_items_in (orders_id, inventorys_id) VALUES (6, 10);
```

select * from contains_items_in;

ORDERS_ID	INVENTORYS_ID
1	1
1	2
1	3
1	4
1	5
1	6

INSERT INTO items (item_id, description, category, name) VALUES

(1, 'Description for Item 1', 'Category 2', 'ItemName 1');

INSERT INTO items (item_id, description, category, name) VALUES

(2, 'Description for Item 2', 'Category 3', 'ItemName 2');

INSERT INTO items (item_id, description, category, name) VALUES

(3, 'Description for Item 3', 'Category 4', 'ItemName 3');

INSERT INTO items (item_id, description, category, name) VALUES

(4, 'Description for Item 4', 'Category 5', 'ItemName 4');

INSERT INTO items (item_id, description, category, name) VALUES

(5, 'Description for Item 5', 'Category 1', 'ItemName 5');

INSERT INTO items (item_id, description, category, name) VALUES

(6, 'Description for Item 6', 'Category 2', 'ItemName 6');

INSERT INTO items (item_id, description, category, name) VALUES

(7, 'Description for Item 7', 'Category 3', 'ItemName 7');

```
INSERT INTO items (item_id, description, category, name) VALUES
(8, 'Description for Item 8', 'Category 4', 'ItemName 8');
INSERT INTO items (item_id, description, category, name) VALUES
(9, 'Description for Item 9', 'Category 5', 'ItemName 9');
INSERT INTO items (item_id, description, category, name) VALUES
(10, 'Description for Item 10', 'Category 1', 'ItemName 10');
INSERT INTO items (item_id, description, category, name) VALUES
(11, 'Description for Item 11', 'Category 2', 'ItemName 11');
INSERT INTO items (item_id, description, category, name) VALUES
(12, 'Description for Item 12', 'Category 3', 'ItemName 12');
INSERT INTO items (item_id, description, category, name) VALUES
(13, 'Description for Item 13', 'Category 4', 'ItemName 13');
INSERT INTO items (item_id, description, category, name) VALUES
(14, 'Description for Item 14', 'Category 5', 'ItemName 14');
INSERT INTO items (item_id, description, category, name) VALUES
(15, 'Description for Item 15', 'Category 1', 'ItemName 15');
INSERT INTO items (item_id, description, category, name) VALUES
(16, 'Description for Item 16', 'Category 2', 'ItemName 16');
INSERT INTO items (item_id, description, category, name) VALUES
(17, 'Description for Item 17', 'Category 3', 'ItemName 17');
INSERT INTO items (item_id, description, category, name) VALUES
(18, 'Description for Item 18', 'Category 4', 'ItemName 18');
INSERT INTO items (item_id, description, category, name) VALUES
```

(19, 'Description for Item 19', 'Category 5', 'ItemName 19');

INSERT INTO items (item_id, description, category, name) VALUES

(20, 'Description for Item 20', 'Category 1', 'ItemName 20');

INSERT INTO items (item_id, description, category, name) VALUES

(21, 'Description for Item 21', 'Category 2', 'ItemName 21');

INSERT INTO items (item_id, description, category, name) VALUES

(22, 'Description for Item 22', 'Category 3', 'ItemName 22');

INSERT INTO items (item_id, description, category, name) VALUES

(23, 'Description for Item 23', 'Category 4', 'ItemName 23');

INSERT INTO items (item_id, description, category, name) VALUES

(24, 'Description for Item 24', 'Category 5', 'ItemName 24');

INSERT INTO items (item_id, description, category, name) VALUES

(25, 'Description for Item 25', 'Category 1', 'ItemName 25');

INSERT INTO items (item_id, description, category, name) VALUES

(26, 'Description for Item 26', 'Category 2', 'ItemName 26');

INSERT INTO items (item_id, description, category, name) VALUES

(27, 'Description for Item 27', 'Category 3', 'ItemName 27');

INSERT INTO items (item_id, description, category, name) VALUES

(28, 'Description for Item 28', 'Category 4', 'ItemName 28');

INSERT INTO items (item_id, description, category, name) VALUES

(29, 'Description for Item 29', 'Category 5', 'ItemName 29');

INSERT INTO items (item_id, description, category, name) VALUES

(30, 'Description for Item 30', 'Category 1', 'ItemName 30');

select * from items;

ITEM_ID	DESCRIPTION	CATEGORY	NAME
1	Description for Item 1	Category 2	ItemName 1
2	Description for Item 2	Category 3	ItemName 2
3	Description for Item 3	Category 4	ItemName 3
4	Description for Item 4	Category 5	ItemName 4
5	Description for Item 5	Category 1	ItemName 5

INSERT INTO hold_item (invento_id, item_id) VALUES

(1, 1);

INSERT INTO hold_item (invento_id, item_id) VALUES

(2, 2);

INSERT INTO hold_item (invento_id, item_id) VALUES

(3, 3);

INSERT INTO hold_item (invento_id, item_id) VALUES

(4, 4);

INSERT INTO hold_item (invento_id, item_id) VALUES

(5, 5);

INSERT INTO hold_item (invento_id, item_id) VALUES

(6, 6);

INSERT INTO hold_item (invento_id, item_id) VALUES

(7, 7);

INSERT INTO hold_item (invento_id, item_id) VALUES

(8, 8);

INSERT INTO hold_item (invento_id, item_id) VALUES

(9, 9);

INSERT INTO hold_item (invento_id, item_id) VALUES

(10, 10);

INSERT INTO hold_item (invento_id, item_id) VALUES

(11, 11);

INSERT INTO hold_item (invento_id, item_id) VALUES

(12, 12);

INSERT INTO hold_item (invento_id, item_id) VALUES

(13, 13);

INSERT INTO hold_item (invento_id, item_id) VALUES

(14, 14);

INSERT INTO hold_item (invento_id, item_id) VALUES

(15, 15);

INSERT INTO hold_item (invento_id, item_id) VALUES

(16, 16);

INSERT INTO hold_item (invento_id, item_id) VALUES

(17, 17);

INSERT INTO hold_item (invento_id, item_id) VALUES

(18, 18);

```
INSERT INTO hold_item (invento_id, item_id) VALUES
(19, 19);
INSERT INTO hold_item (invento_id, item_id) VALUES
(20, 20);
INSERT INTO hold_item (invento_id, item_id) VALUES
(21, 21);
INSERT INTO hold_item (invento_id, item_id) VALUES
(22, 22);
INSERT INTO hold_item (invento_id, item_id) VALUES
(23, 23);
INSERT INTO hold_item (invento_id, item_id) VALUES
(24, 24);
INSERT INTO hold_item (invento_id, item_id) VALUES
(25, 25);
INSERT INTO hold_item (invento_id, item_id) VALUES
(26, 26);
INSERT INTO hold_item (invento_id, item_id) VALUES
(27, 27);
INSERT INTO hold_item (invento_id, item_id) VALUES
(28, 28);
INSERT INTO hold_item (invento_id, item_id) VALUES
(29, 29);
INSERT INTO hold_item (invento_id, item_id) VALUES
```

(30, 30);

INSERT INTO hold_item (invento_id, item_id) VALUES

select * from hold_item;

INVENTO_ID	ITEM_ID
1	1
2	2
3	3
4	4
5	5
6	6

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (1, TO_DATE('2024-03-27', 'YYYY-MM-DD'), 'Truck', 'Destination A');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (2, TO_DATE('2024-03-28', 'YYYY-MM-DD'), 'Ship', 'Destination B');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (3, TO_DATE('2024-03-29', 'YYYY-MM-DD'), 'Plane', 'Destination C');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (4, TO_DATE('2024-03-30', 'YYYY-MM-DD'), 'Train', 'Destination D');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (5, TO_DATE('2024-03-31', 'YYYY-MM-DD'), 'Truck',

'Destination E');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (6, TO_DATE('2024-04-01', 'YYYY-MM-DD'), 'Ship', 'Destination F');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (7, TO_DATE('2024-04-02', 'YYYY-MM-DD'), 'Plane', 'Destination G');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (8, TO_DATE('2024-04-03', 'YYYY-MM-DD'), 'Train', 'Destination H');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (9, TO_DATE('2024-04-04', 'YYYY-MM-DD'), 'Truck', 'Destination I');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (10, TO_DATE('2024-04-05', 'YYYY-MM-DD'), 'Ship', 'Destination J');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (11, TO_DATE('2024-04-06', 'YYYY-MM-DD'), 'Plane', 'Destination K');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (12, TO_DATE('2024-04-07', 'YYYY-MM-DD'), 'Train', 'Destination L');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (13, TO_DATE('2024-04-08', 'YYYY-MM-DD'), 'Truck', 'Destination M');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (14, TO_DATE('2024-04-09', 'YYYY-MM-DD'), 'Ship', 'Destination N');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (15, TO_DATE('2024-04-10', 'YYYY-MM-DD'), 'Plane', 'Destination O');

```
INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (16, TO_DATE('2024-04-11', 'YYYY-MM-DD'), 'Train', 'Destination P');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (17, TO_DATE('2024-04-12', 'YYYY-MM-DD'), 'Truck', 'Destination Q');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (18, TO_DATE('2024-04-13', 'YYYY-MM-DD'), 'Ship', 'Destination R');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (19, TO_DATE('2024-04-14', 'YYYY-MM-DD'), 'Plane', 'Destination S');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (20, TO_DATE('2024-04-15', 'YYYY-MM-DD'), 'Train', 'Destination T');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (21, TO_DATE('2024-04-16', 'YYYY-MM-DD'), 'Truck', 'Destination U');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (22, TO_DATE('2024-04-17', 'YYYY-MM-DD'), 'Ship', 'Destination V');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (23, TO_DATE('2024-04-18', 'YYYY-MM-DD'), 'Plane', 'Destination W');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (24, TO_DATE('2024-04-19', 'YYYY-MM-DD'), 'Train', 'Destination X');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (25, TO_DATE('2024-04-20', 'YYYY-MM-DD'), 'Truck', 'Destination Y');
```

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (26, TO_DATE('2024-04-21', 'YYYY-MM-DD'), 'Ship', 'Destination Z');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (27, TO_DATE('2024-04-22', 'YYYY-MM-DD'), 'Plane', 'Destination AA');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (28, TO_DATE('2024-04-23', 'YYYY-MM-DD'), 'Train', 'Destination AB');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (29, TO_DATE('2024-04-24', 'YYYY-MM-DD'), 'Truck', 'Destination AC');

INSERT INTO shipment (shipment_id, ship_date, transport_method, destination) VALUES (30, TO_DATE('2024-04-25', 'YYYY-MM-DD'), 'Ship', 'Destination AD');

select * from shipment

SHIPMENT_ID	SHIP_DATE	TRANSPORT_METHOD	DESTINATION
1	27-MAR-24	Truck	Destination A
2	28-MAR-24	Ship	Destination B
3	29-MAR-24	Plane	Destination C
4	30-MAR-24	Train	Destination D
5	31-MAR-24	Truck	Destination E
6	01-APR-24	Ship	Destination F

INSERT INTO shipment_item (shipment_item_id, invent_id, shipment_id) VALUES (1, 1, 1);

INSERT INTO shipment_item (shipment_item_id, invent_id, shipment_id)

VALUES (2, 2, 1);

INSERT INTO shipment_item (shipment_item_id, invent_id, shipment_id)
VALUES (3, 3, 1);

INSERT INTO shipment_item (shipment_item_id, invent_id, shipment_id)
VALUES (4, 4, 1);

INSERT INTO shipment_item (shipment_item_id, invent_id, shipment_id)
VALUES (5, 5, 1);

-- Assume continuation for brevity

INSERT INTO shipment_item (shipment_item_id, invent_id, shipment_id)
VALUES (896, 26, 30);

INSERT INTO shipment_item (shipment_item_id, invent_id, shipment_id)
VALUES (897, 27, 30);

INSERT INTO shipment_item (shipment_item_id, invent_id, shipment_id)
VALUES (898, 28, 30);

INSERT INTO shipment_item (shipment_item_id, invent_id, shipment_id)
VALUES (899, 29, 30);

INSERT INTO shipment_item (shipment_item_id, invent_id, shipment_id)
VALUES (900, 30, 30);

select * from shipment_item;

SHIPMENT_ITEM_ID	INVENT_ID	SHIPMENT_ID
1	1	1
2	2	1
3	3	1
4	4	1
5	5	1
896	26	30

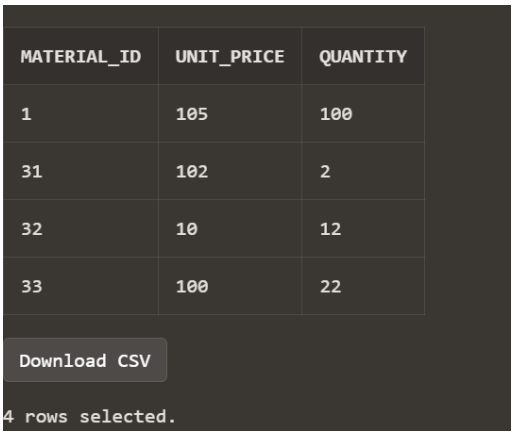
Find all raw materials provided by a specifIc supplier, identifled by name:

```
SELECT rm.material_id, rm.unit_price, rm.quantity

FROM raw_materials rm

JOIN suppliers s ON rm.supplier_id = s.supplier_id

WHERE s.name = 'Supplier A1';
```



MATERIAL_ID	UNIT_PRICE	QUANTITY
1	105	100
31	102	2
32	10	12
33	100	22

Download CSV

4 rows selected.

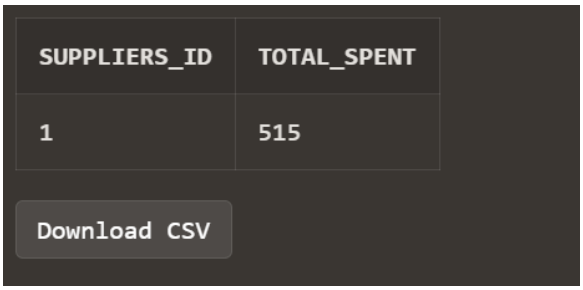
Calculate the total price of all orders from a specifIc supplier:

```
SELECT o.suppliers_id, SUM(o.total_price) AS total_spent

FROM orders o

WHERE o.suppliers_id = (SELECT supplier_id FROM suppliers WHERE name =
'Supplier A1')
```

GROUP BY o.suppliers_id;



SUPPLIERS_ID	TOTAL_SPENT
1	515

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Insert a new supplier into the suppliers table:

INSERT INTO suppliers (supplier_id, name, email, phone_no) VALUES (31, 'New Supplier', 'new@example.com', 1112223334);

select * from suppliers where supplier_id=31;

1 row(s) inserted.

SUPPLIER_ID	NAME	EMAIL	PHONE_NO
31	New Supplier	new@example.com	1112223334

Download CSV

Update the quantity of a specifIc raw material:

UPDATE raw_materials

SET quantity = 100

WHERE material_id = 1 AND supplier_id = 1;

select * from raw_materials where material_id=1;

MATERIAL_ID	UNIT_PRICE	QUANTITY	SUPPLIER_ID
1	105	100	1

Download CSV

Find all orders along with the supplier name:

```
SELECT o.order_id, o.order_date, o.total_price, s.name AS supplier_name
FROM orders o
JOIN suppliers s ON o.suppliers_id = s.supplier_id;
```

ORDER_ID	ORDER_DATE	TOTAL_PRICE	SUPPLIER_NAME
1	02-JAN-23	515	Supplier A1
2	03-JAN-23	530	Supplier A2
3	04-JAN-23	545	Supplier A3
4	05-JAN-23	560	Supplier A4
5	06-JAN-23	575	Supplier A5
6	07-JAN-23	590	Supplier A6

List inventory items stored in a specifIc city:

```
SELECT i.item_name, i.quantity, st.city_name
FROM inventory i
JOIN storage st ON i.storage_id = st.storage_id
WHERE st.city_name = 'City 1';
```

ITEM_NAME	QUANTITY	CITY_NAME
Item 5	65	City 1
Item 10	80	City 1
Item 15	95	City 1
Item 20	110	City 1
Item 25	125	City 1
Item 30	140	City 1

Find the total quantity of items ordered by each order:

```
SELECT o.order_id, SUM(i.quantity) AS total_items
FROM orders o
JOIN contains_items_in ci ON o.order_id = ci.orders_id
JOIN inventory i ON ci.inventorys_id = i.inventory_id
GROUP BY o.order_id;
```

ORDER_ID	TOTAL_ITEMS
6	665
1	665
2	695
4	665
5	665
3	725

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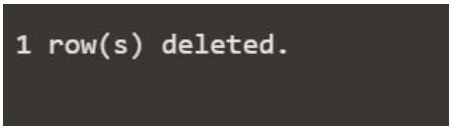
Delete a supplier from the database:

DELETE FROM suppliers WHERE supplier_id = 31;



Show shipments planned for a specifIc destination:

SELECT shipment_id, ship_date, transport_method

FROM shipment

WHERE destination = 'Destination A';

List all orders, including item names and quantities, for each supplier:

SELECT s.supplier_id, s.name AS supplier_name, o.order_id, i.item_name, SUM(i.quantity) AS total_quantity

FROM suppliers s

JOIN orders o ON s.supplier_id = o.suppliers_id

JOIN contains_items_in ciin ON o.order_id = ciin.orders_id

JOIN inventory i ON ciin.inventorys_id = i.inventory_id

GROUP BY s.supplier_id, s.name, o.order_id, i.item_name

ORDER BY s.supplier_id, o.order_id;

SUPPLIER_ID	SUPPLIER_NAME	ORDER_ID	ITEM_NAME	TOTAL_QUANTITY
1	Supplier A1	1	Item 1	53
1	Supplier A1	1	Item 10	80
1	Supplier A1	1	Item 2	56
1	Supplier A1	1	Item 3	59
1	Supplier A1	1	Item 4	62
1	Supplier A1	1	Item 5	65

Rank suppliers based on the total price of orders:

SELECT s.supplier_id, s.name, SUM(o.total_price) OVER (PARTITION BY s.supplier_id) AS total_spent,

RANK() OVER (ORDER BY SUM(o.total_price) DESC) AS spending_rank

FROM suppliers s

JOIN orders o ON s.supplier_id = o.suppliers_id

GROUP BY s.supplier_id, s.name, o.total_price

ORDER BY total_spent DESC;

SUPPLIER_ID	NAME	TOTAL_SPENT	SPENDING_RANK
30	Supplier C10	950	1
29	Supplier C9	935	2
28	Supplier C8	920	3
27	Supplier C7	905	4
26	Supplier C6	890	5
25	Supplier C5	875	6

Find the top 3 most stocked items in each storage facility:

```
WITH RankedItems AS (
  SELECT storage_id, item_name, quantity, RANK() OVER (PARTITION BY storage_id ORDER BY quantity DESC) AS rank
  FROM inventory
)
SELECT storage_id, item_name, quantity, rank
FROM RankedItems
WHERE rank <= 3;
```

STORAGE_ID	ITEM_NAME	QUANTITY	RANK
1	Item 26	128	1
1	Item 21	113	2
1	Item 16	98	3
2	Item 27	131	1
2	Item 22	116	2
2	Item 17	101	3

Calculate the average unit price of raw materials supplied by each supplier:

```
SELECT s.name AS supplier_name, AVG(rm.unit_price) AS avg_unit_price
FROM raw_materials rm
JOIN suppliers s ON rm.supplier_id = s.supplier_id
GROUP BY s.name;
```

SUPPLIER_NAME	AVG_UNIT_PRICE
Supplier A4	120
Supplier B2	160
Supplier B10	200
Supplier C4	220
Supplier C2	210
Supplier C6	230

List shipments that include items from more than one storage location:

```
WITH ShipmentDetails AS (
  SELECT sh.shipment_id, inv.storage_id
  FROM shipment sh
  JOIN shipment_item si ON sh.shipment_id = si.shipment_id
  JOIN inventory inv ON si.invent_id = inv.inventory_id
```

```
  GROUP BY sh.shipment_id, inv.storage_id
)
SELECT shipment_id
FROM ShipmentDetails
GROUP BY shipment_id
HAVING COUNT(DISTINCT storage_id) > 1;
```