**1.Introduction**

**\*Background:**

The objective of the project is to create one database called Inventory Management in this we have created tables related to Products .Use this Database we can easily get the details of each product and related data using Sql querys.This helps everyone who are need to know thw details of every single product indetail with easy way using SQL querys.

Objectives:

1.Evreyone can access and retrive the data easily.

2.Only admin can changes the databases.

3.We can select,insert,update,modify,delete,drop,join the data.

**2.SOFTWARE SPECIFICATION** :

\***Language** : MySQL.

\*  **Software** : Mysql work bench software.

**MySQl:**

**1.**[**Data**](https://www.linkedin.com/feed/hashtag/?keywords=data&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7230288537009487872)**-Raw fact  
2.**[**Database**](https://www.linkedin.com/feed/hashtag/?keywords=database&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7230288537009487872)**-Structered file we can retreive,access,modify,delete,changes  
3.**[**DBMS**](https://www.linkedin.com/feed/hashtag/?keywords=dbms&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7230288537009487872)**-Software  
4.**[**SQLcommands**](https://www.linkedin.com/feed/hashtag/?keywords=sqlcommands&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7230288537009487872)**:**[**DDL**](https://www.linkedin.com/feed/hashtag/?keywords=ddl&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7230288537009487872) **(Data Definition Language): Used to define and manage database structures.  
CREATE, ALTER, DROP, TRUNCATE, RENAME**[**DML**](https://www.linkedin.com/feed/hashtag/?keywords=dml&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7230288537009487872) **(Data Manipulation Language): Used to manipulate data in tables.  
INSERT, UPDATE, DELETE**[**DQL**](https://www.linkedin.com/feed/hashtag/?keywords=dql&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7230288537009487872) **(Data Query Language): Used to query data from the database.  
SELECT**[**DCL**](https://www.linkedin.com/feed/hashtag/?keywords=dcl&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7230288537009487872) **(Data Control Language): Used to control access to data.  
GRANT, REVOKE**[**TCL**](https://www.linkedin.com/feed/hashtag/?keywords=tcl&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7230288537009487872) **(Transaction Control Language): Used to manage transactions.  
COMMIT, ROLLBACK, SAVEPOINT, RELEASE SAVEPOINT  
  
5.Constraints -not null, primary key,foreign key,unique,check,default  
6.Where clause**[**7.group**](http://7.group/) **by,order by ,having  
8.aggregate functions  
9.string functions and date functions and numeric functions  
10.joins ]  
11.views  
12.CTEs**

**Project:**

**create database InventoryManagement;**

**use** InventoryManagement;(To use the created data base we have to use “use” key word as use data base name)

**Products Table**

For creating a table we have to use “create” key word

Syntax: create table table\_name(column name types constrains(if any needed)

create table Products (product\_id INT PRIMARY KEY AUTO\_INCREMENT,

product\_name VARCHAR(100) NOT NULL,

category\_id INT NOT NULL,

price DECIMAL(10, 2) NOT NULL,

stock\_quantity INT NOT NULL,

reorder\_level INT NOT NULL);

For inserting values into table we have to use “insert” key word

Syntax: insert into table\_name vales(data)

insert into products values(1,'Laptop', 1, 1200.00, 50, 10),

(2,'Smartphone', 1, 800.00, 100, 20),

(3,'Tablet', 1, 600.00, 75, 15),

(4,'Smartwatch', 1, 250.00, 150, 30),

(5,'Headphones', 1, 150.00, 200, 50),

(6,'Monitor', 1, 400.00, 60, 12),

(7,'Gaming Console', 1, 400.00, 35, 7),

(8,'Graphics Card', 1, 700.00, 25, 5),

(9,'Motherboard', 1, 250.00, 55, 11),

(10,'Power Supply Unit', 1, 150.00, 70, 14),

(11,'Keyboard', 2, 50.00, 500, 100),

(12,'Mouse', 2, 30.00, 600, 120),

(13,'Printer', 2, 300.00, 40, 8),

(14,'Webcam', 2, 80.00, 100, 20),

(15,'External Hard Drive', 2, 100.00, 80, 20),

(16,'USB Flash Drive', 2, 20.00, 300, 60),

(17,'Cooling Fan', 2, 25.00, 150, 30),

(18,'Portable Speaker', 2, 80.00, 100, 20),

(19,'Speakers', 2, 120.00, 80, 16),

(20,'Bluetooth Dongle', 2, 15.00, 200, 40),

(21,'Router', 3, 90.00, 60, 12),

(22,'Network Switch', 3, 200.00, 40, 8),

(23,'Wireless Adapter', 3, 35.00, 90, 18),

(24,'Smart Home Hub', 4, 150.00, 45, 9),

(25,'Smart Light Bulb', 4, 20.00, 150, 30),

(26,'Smart Thermostat', 4, 200.00, 40, 8),

(27,'Smart Doorbell', 4, 180.00, 35, 7),

(28,'Security Camera', 4, 100.00, 70, 14),

(29,'Robot Vacuum', 4, 400.00, 20, 4),

(30,'VR Headset', 5, 350.00, 30, 6),

(31,'Drone', 5, 1000.00, 15, 3),

(32,'Projector', 5, 500.00, 25, 5),

(33,'Fitness Tracker', 6, 100.00, 120, 24),

(34,'E-Reader', 6, 120.00, 50, 10),

(35,'Portable Charger', 6, 40.00, 200, 40),

(36,'Smartwatch', 6, 250.00, 150, 30),

(37,'Digital Camera', 7, 600.00, 30, 6),

(38,'Action Camera', 7, 400.00, 25, 5),

(39,'Electric Scooter', 8, 700.00, 15, 3),

(40, 'Electric Bike', 8, 1200.00, 10, 2),

(41, 'Range Extender', 3, 45.00, 70, 14),

(42, 'Network Cable', 3, 10.00, 500, 100),

(43, 'Smart Plug', 4, 25.00, 200, 40),

(44, 'Smart Lock', 4, 150.00, 50, 10),

(45, 'Streaming Device', 5, 60.00, 100, 20),

(46, 'Wireless Earbuds', 6, 150.00, 200, 50),

(47, 'Tripod', 7, 70.00, 100, 20),

(48, 'Hoverboard', 8, 350.00, 20, 4),

(49, 'Office Chair', 9, 150.00, 60, 12),

(50, 'Standing Desk', 9, 400.00, 30, 6);

**DELETE FROM Products WHERE product\_id = 1; (if we didn’t mention where condition the whole data will be deleted from the table)**

**drop table Products; (delete the whole table from data base)**

**select\*from products; (Fetches the whole data from table)**

**Categories Table**

**create table Categories(category\_id int primary key auto\_increment,**

**category\_name varchar(100) unique not null,**

**description text );**

**insert into Categories values(1, 'Electronics', 'Devices such as laptops, smartphones, tablets, and other electronic gadgets.'),**

**(2, 'Peripherals', 'Computer accessories including keyboards, mice, printers, and external drives.'),**

**(3, 'Networking', 'Products related to networking like routers, switches, and network cables.'),**

**(4, 'Smart Home', 'Devices for smart home automation including hubs, thermostats, and security systems.'),**

**(5, 'Entertainment', 'Entertainment products such as VR headsets, drones, and projectors.'),**

**(6, 'Personal Gadgets', 'Wearable tech and portable gadgets like fitness trackers and e-readers.'),**

**(7, 'Photography', 'Photography equipment including cameras, tripods, and accessories.'),**

**(8, 'Transportation', 'Personal transportation devices like electric scooters and bikes.'),**

**(9, 'Office Supplies', 'Office-related products like chairs, desks, and other furniture.');**

**select\*from categories;**

**drop table categories;**

**Suppliers Table**

**create table Suppliers(supplier\_id int primary key auto\_increment,**

**supplier\_name varchar(100) not null,**

**contact\_name varchar(50));**

**alter table suppliers modify phone\_number varchar(15);**

**select \* from suppliers;**

**insert into suppliers values(1,'Tech Supplies Inc.', 'Sai Babu', '123 office building,Amaravathi,Guntur Dist,Andhra pradesh,India', '6342567895'),**

**(2,'Office Essentials Ltd.', 'Mani', '45-6 Tech Building Opp Venkateswara Temple,Ongole,Prakasam Dist,Andhara Pradesh,India', '9087656456'),**

**(3,'Home Gadgets Co.', 'Srinu', '9-77 IT BUilding Near Govt.Hospital,Vijayawada Central,Vijayawada Dist,Andhra Pradesh,India ', '8564864798'),**

**(4,'Smart Devices LLC', 'Ravi', '64-8 Church Street,Bangalore,Karnataka,India', '6301899367'),**

**(5,'Camera World', 'Parasu Ram', '99-1 Beach Road Near Collector Office,Vizag,Andhra Pradesh,India', '8788368797'),**

**(6,'Eco Electronics', 'Anvesh', '303 Near Bus Stand,Markapuram,Prakasam Dist,Andhra Pradesh,India', '8987377865'),**

**(7,'Innovative Solutions', 'Manoj','56-7 Near SSN College,Narasarao Peta,Andhra Pradesh,India','7878739892'),**

**(8,'Future Tech', 'Santosh', '78-8 Main Street,Macharaju Kunta,Prakasam Dist,Andhra Pradesh,India', '7837879278'),**

**(9,'Gadget Hub', 'Ajay', '54-3 Near Govt.College,Markapuram,Prakasam Dist,Andhra Pradesh,India', '9878873998');**

**Orders Table**

create table Orders(order\_id int primary key auto\_increment,

order\_date date not null,

supplier\_id int not null,

total\_amount decimal(10,2) not null);

insert into orders values(1, '2019-03-15', 3, 1800.00),

(2, '2019-06-23', 7, 2600.00),

(3, '2019-09-11', 1, 1500.00),

(4, '2019-12-02', 5, 3100.00),

(5, '2020-01-14', 9, 4000.00),

(6, '2020-03-21', 4, 2200.00),

(7, '2020-05-10', 6, 1200.00),

(8, '2020-07-19', 8, 3400.00),

(9, '2020-10-05', 2, 2700.00),

(10, '2020-12-30', 7, 2750.00),

(11, '2021-02-17', 5, 3000.00),

(12, '2021-04-09', 3, 1750.00),

(13, '2021-06-25', 9, 4500.00),

(14, '2021-09-12', 1, 1950.00),

(15, '2021-11-20', 8, 3600.00),

(16, '2022-01-04', 4, 2350.00),

(17, '2022-03-16', 6, 1600.00),

(18, '2022-06-07', 2, 2900.00),

(19, '2022-08-13', 7, 2900.00),

(20, '2022-10-29', 9, 4200.00),

(21, '2023-01-11', 3, 1900.00),

(22, '2023-03-22', 1, 2100.00),

(23, '2023-05-16', 4, 2450.00),

(24, '2023-07-28', 8, 3300.00),

(25, '2023-10-09', 2, 2800.00),

(26, '2023-12-15', 6, 1400.00),

(27, '2024-02-06', 5, 3200.00),

(28, '2024-03-21', 3, 2000.00),

(29, '2024-04-17', 7, 3000.00),

(30, '2024-05-08', 9, 4100.00),

(31, '2024-06-15', 1, 2200.00),

(32, '2024-07-19', 4, 2500.00),

(33, '2024-08-02', 8, 3700.00),

(34, '2024-08-05', 6, 1700.00),

(35, '2024-08-10', 2, 3000.00),

(36, '2024-08-13', 5, 3300.00),

(37, '2024-08-16', 9, 4300.00),

(38, '2019-02-28', 3, 2100.00),

(39, '2019-05-12', 1, 2400.00),

(40, '2019-08-05', 7, 3100.00),

(41, '2019-11-23', 6, 1800.00),

(42, '2020-02-14', 8, 3500.00),

(43, '2020-04-28', 4, 2550.00),

(44, '2020-07-11', 2, 2700.00),

(45, '2020-10-23', 5, 3400.00),

(46, '2021-01-17', 9, 4500.00),

(47, '2021-03-11', 3, 2200.00),

(48, '2021-05-26', 1, 2600.00),

(49, '2021-07-10', 7, 3100.00),

(50, '2021-09-18', 6, 1800.00);

**select\*from orders;**

**drop table orders;**

**select \* from orders where order\_date between ‘2019-01-01’ and ‘2021-12-31’;**

**Order\_details Table**

create table Order\_details(order\_detail\_id int primary key auto\_increment,

order\_id int not null,

product\_id int not null,

quantity int not null,

unit\_price decimal(10,2) not null);

insert into order\_details values(1, 1, 15, 5, 300.00),

(2, 2, 8, 10, 150.00),

(3, 3, 22, 3, 200.00),

(4, 4, 13, 7, 250.00),

(5, 5, 5, 2, 400.00),

(6, 6, 27, 4, 220.00),

(7, 7, 19, 6, 180.00),

(8, 8, 34, 8, 300.00),

(9, 9, 7, 9, 150.00),

(10, 10, 20, 1, 275.00),

(11, 11, 12, 2, 150.00),

(12, 12, 26, 5, 175.00),

(13, 13, 18, 3, 450.00),

(14, 14, 29, 7, 195.00),

(15, 15, 9, 4, 360.00),

(16, 16, 16, 6, 235.00),

(17, 17, 23, 8, 160.00),

(18, 18, 10, 2, 290.00),

(19, 19, 35, 5, 290.00),

(20, 20, 3, 7, 420.00),

(21, 21, 14, 3, 190.00),

(22, 22, 28, 4, 210.00),

(23, 23, 11, 6, 245.00),

(24, 24, 30, 8, 330.00),

(25, 25, 6, 10, 280.00),

(26, 26, 25, 2, 140.00),

(27, 27, 31, 4, 320.00),

(28, 28, 1, 6, 200.00),

(29, 29, 21, 8, 300.00),

(30, 30, 4, 3, 410.00),

(31, 31, 17, 7, 220.00),

(32, 32, 33, 2, 250.00),

(33, 33, 2, 5, 370.00),

(34, 34, 24, 9, 170.00),

(35, 35, 15, 4, 300.00),

(36, 36, 8, 8, 150.00),

(37, 37, 22, 6, 430.00),

(38, 38, 13, 7, 210.00),

(39, 39, 5, 3, 240.00),

(40, 40, 27, 5, 330.00),

(41, 41, 19, 4, 250.00),

(42, 42, 34, 9, 350.00),

(43, 43, 7, 6, 270.00),

(44, 44, 20, 8, 255.00),

(45, 45, 12, 2, 450.00),

(46, 46, 26, 5, 220.00),

(47, 47, 18, 7, 310.00),

(48, 48, 29, 3, 180.00),

(49, 49, 9, 8, 260.00),

(50, 50, 16, 1, 180.00);

**Select \* from order\_details;**

**SQL Queries**

**After creating the tables, I practiced the following questions using SQL queries:**

1. **Retrieve the names and prices of all products that are currently out of stock.**
2. **List the total number of products in each category.**
3. **Find all suppliers who have supplied products worth more than $10,000.**
4. **Get the details of products with a stock quantity less than their reorder level.**
5. **Retrieve the order IDs and total amounts for orders placed in the last 30 days.**
6. **List all products along with their categories, ordered by product name.**
7. **Get the names of suppliers who have not supplied any products in the last 6 months.**
8. **Find the total amount spent on orders for each supplier.**
9. **Retrieve the product names and total quantities ordered for each product in the last year.**
10. **Get a list of products that belong to the Electronics category and have a price greater than $500.**

**Anwers:** **#Qurries**

**1.Retrieve the names and prices of all products that are currently out of stock.**

**select product\_name,price from products where stock\_quantity=0;**

**2.List the total number of products in each category.**

**select p.category\_id,count(\*),c.category\_name from products as p join Categories as c**

**on p.category\_id=c.category\_id group by category\_id;**

**3.Find all suppliers who have supplied products worth more than $10,000.**

**select s.supplier\_name,s.contact\_name,o.total\_amount from suppliers as s**

**join orders as o on s.supplier\_id=o.supplier\_id**

**where total\_amount>10000;**

**4.Get the details of products with a stock quantity less than their reorder level.**

**select product\_name,stock\_quantity,reorder\_level from products**

**where stock\_quantity<reorder\_level;**

**5.Retrieve the order IDs and total amounts for orders placed in the last 30 days.**

**select order\_id,total\_amount from orders**

**where order\_date>=current\_date()-interval 30 day;**

**6.List all products along with their categories, ordered by product name**

**select p.category\_id,p.product\_name,c.category\_name from products as p**

**left join categories as c on p.category\_id=c.category\_id**

**order by product\_name;**

**7.Get the names of suppliers who have not supplied any products in the last 6 months**

**select s.supplier\_name,s.contact\_name from suppliers as s**

**join orders as o on s.supplier\_id=o.supplier\_id**

**where order\_date is null>=current\_date()- interval 6 month;**

**8.Find the total amount spent on orders for each supplier.**

**select s.supplier\_name,s.contact\_name,sum(o.total\_amount) from suppliers as s**

**join orders as o on s.supplier\_id=o.supplier\_id**

**group by s.supplier\_id;**

**9.Retrieve the product names and total quantities ordered for each product in the last year.**

**select p.product\_name,sum(d.quantity) from products as p join Order\_details as d on p.product\_id=d.product\_id**

**join orders as o on d.order\_id=o.order\_id where order\_date>= current\_date()- interval 1 year group by p.product\_id;**

**10.Get a list of products that belong to the Electronics category and have a price greater than $500.**

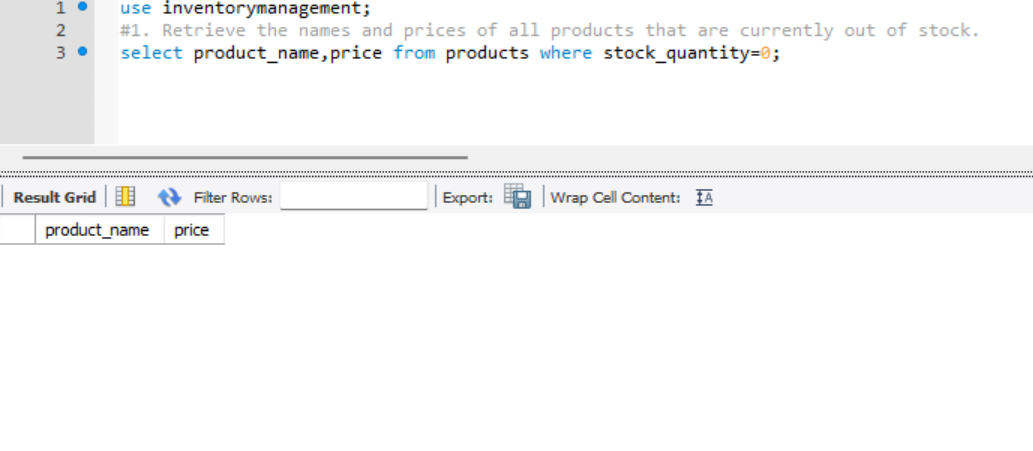
**select p.product\_name,o.unit\_price from products as p join order\_details as o on p.product\_id=o.product\_id**

**join Categories as c on p.category\_id=c.category\_id where o.unit\_price>500 and c.category\_name='Electronics';**

**Outputs:**

**1.Retrieve the names and prices of all products that are currently out of stock.**

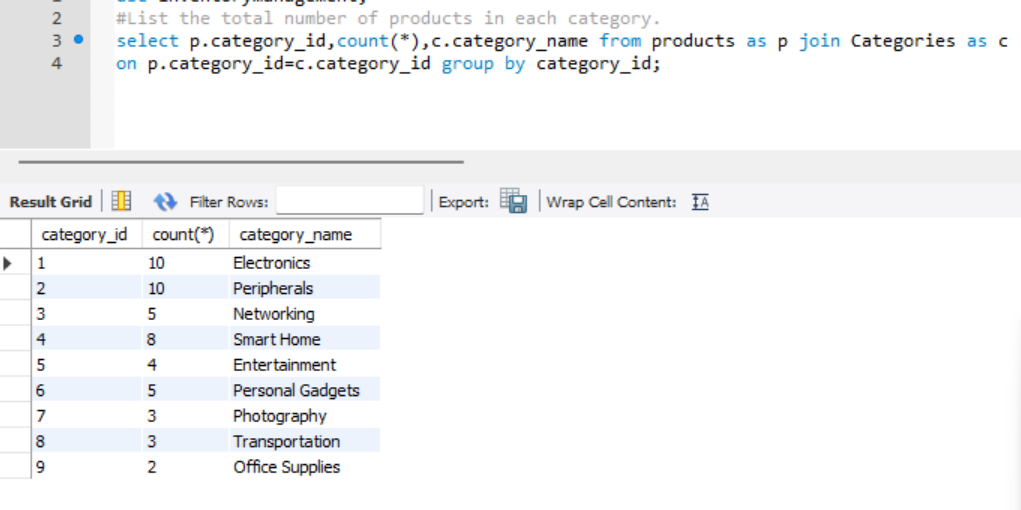
**Query: select product\_name,price from products where stock\_quantity=0;**



**Note:NO data is shown because there is no out of stock**

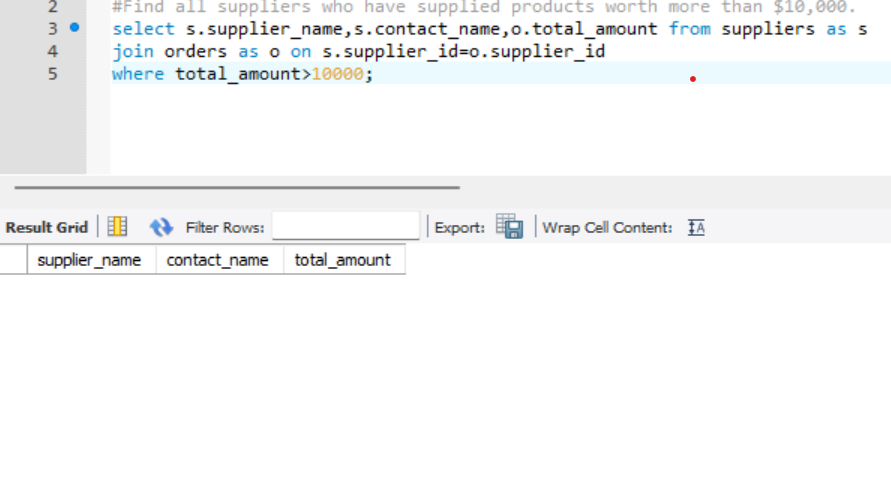
**List the total number of products in each category.**

**Query: select p.category\_id,count(\*),c.category\_name from products as p join Categories as c on p.category\_id=c.category\_id group by category\_id;**



**Find all suppliers who have supplied products worth more than $10,000.**

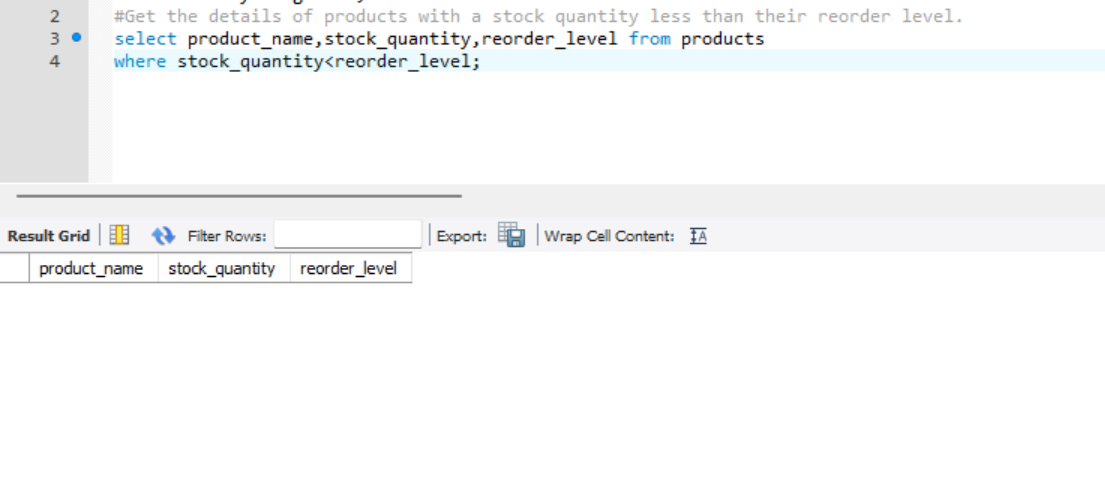
**Query: select s.supplier\_name,s.contact\_name,o.total\_amount from suppliers as sjoin orders as o on s.supplier\_id=o.supplier\_id where total\_amount>10000;**

**Qurrie: select s.supplier\_name,s.contact\_name,o.total\_amount from suppliers as sjoin orders as o on s.supplier\_id=o.supplier\_id where total\_amount>10000;**

**Get the details of products with a stock quantity less than their reorder level.**

**Query: select product\_name,stock\_quantity,reorder\_level from products**

**where stock\_quantity<reorder\_level;**

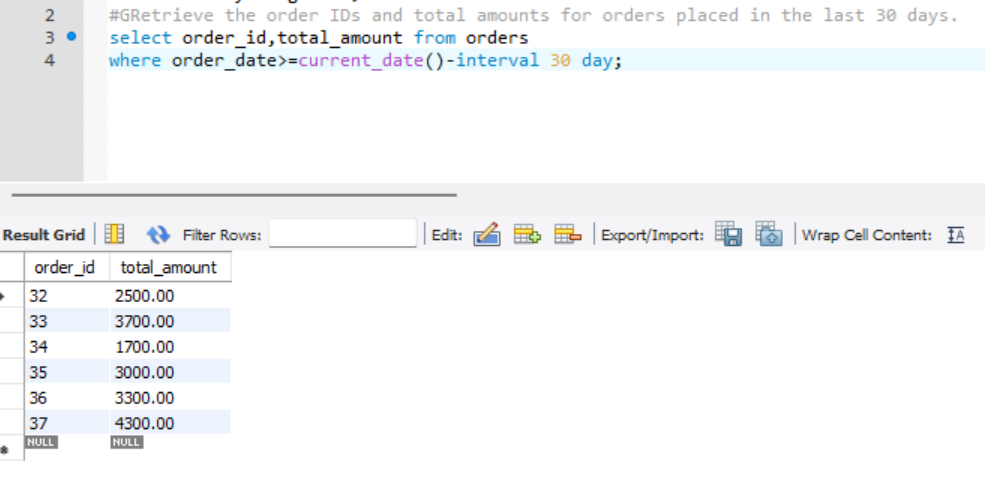


**NO data is fetched because there no storck\_quantity Is less than reorder\_level**

**Retrieve the order IDs and total amounts for orders placed in the last 30 days.**

**Query: select order\_id,total\_amount from orders**

**where order\_date>=current\_date()-interval 30 day;**

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**List all products along with their categories, ordered by product name**

**Query: select p.category\_id,p.product\_name,c.category\_name from products as pleft join categories as c on p.category\_id=c.category\_id order by product\_name;**

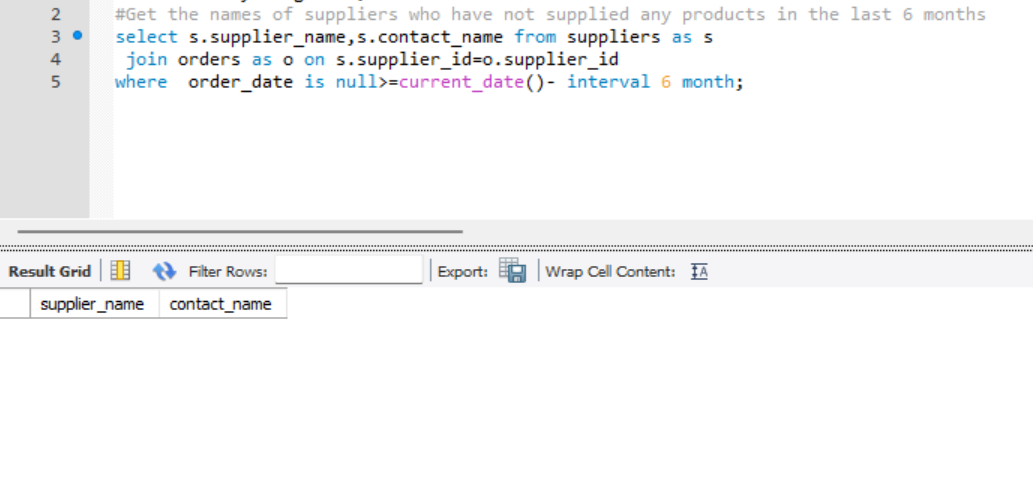


**Get the names of suppliers who have not supplied any products in the last 6 months**

**Query: select s.supplier\_name,s.contact\_name from suppliers as s**

**join orders as o on s.supplier\_id=o.supplier\_id**

**where order\_date is null>=current\_date()- interval 6 month;**

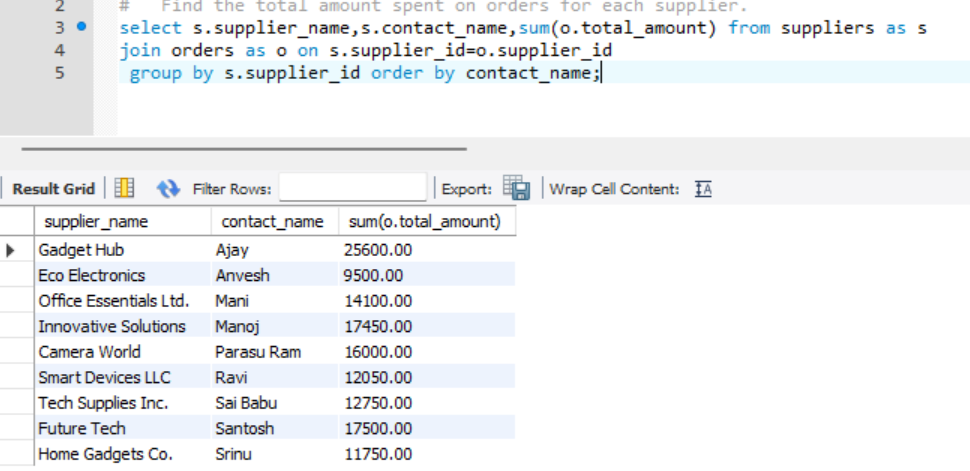
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**Find the total amount spent on orders for each supplier.**

**Query: select s.supplier\_name,s.contact\_name,sum(o.total\_amount) from suppliers as s**

**join orders as o on s.supplier\_id=o.supplier\_id**

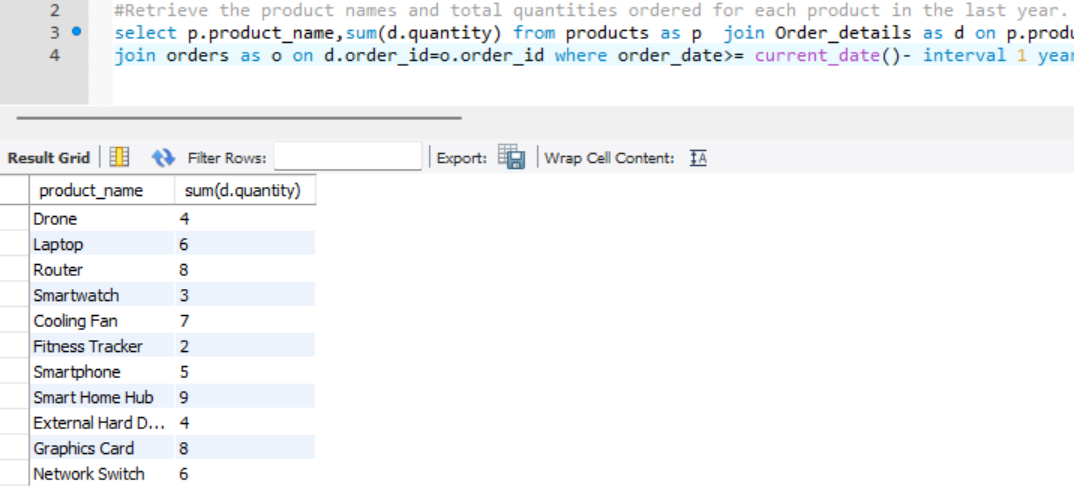
**group by s.supplier\_id order by contact\_name;**

****

**Retrieve the product names and total quantities ordered for each product in the last year.**

**select p.product\_name,sum(d.quantity) from products as p join Order\_details as d on p.product\_id=d.product\_id**

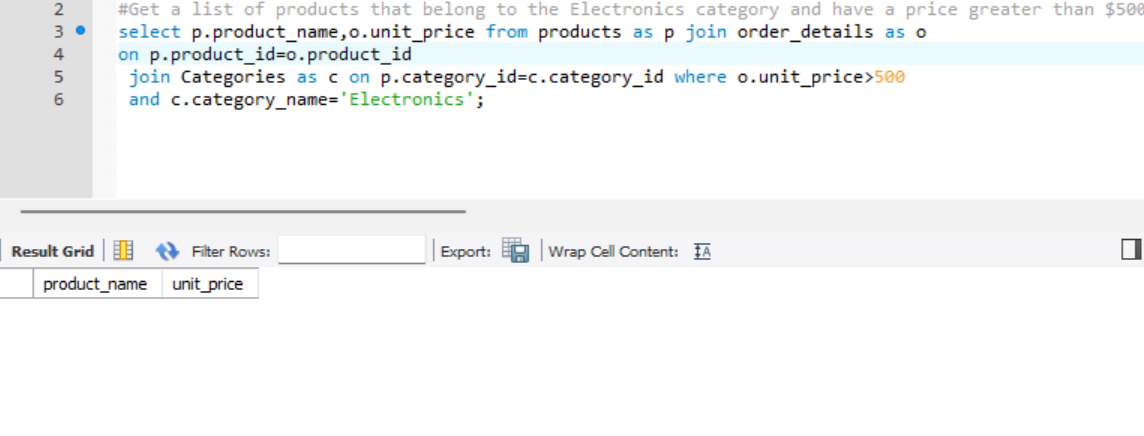
**join orders as o on d.order\_id=o.order\_id where order\_date>= current\_date()- interval 1 year group by p.product\_id;**

****

**Get a list of products that belong to the Electronics category and have a price greater than $500.**

**Query: select p.product\_name,o.unit\_price from products as p join order\_details as o on p.product\_id=o.product\_id**

**join Categories as c on p.category\_id=c.category\_id where o.unit\_price>500 and c.category\_name='Electronics';**

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**Online Tutorial and Reference’s:**

• W3School HTML/CSS Tutorials, References and Examples @ http://www.w3schools.com/. (W3School is not related to W3C**)**