

```
CREATE TABLE IF NOT EXISTS Pharmacy (  
    PharmacyID INT NOT NULL,  
    Name VARCHAR(45) NULL,  
    Location VARCHAR(255) NULL,  
    ContactInformation VARCHAR(45) NULL,  
    PRIMARY KEY (PharmacyID));
```

```
CREATE TABLE IF NOT EXISTS Pharmacist (  
    PharmacistID INT NOT NULL,  
    Name VARCHAR(45) NULL,  
    ContactInformation VARCHAR(100) NULL,  
    LicenseNumber VARCHAR(50) NULL,  
    PharmacyID INT NULL,  
    CONSTRAINT pk_Pharmacist  
    PRIMARY KEY (PharmacistID),  
    CONSTRAINT fk_Pharmacist_Pharmacy  
    FOREIGN KEY (PharmacyID)  
        REFERENCES Pharmacy(PharmacyID)  
    );
```

```
CREATE TABLE IF NOT EXISTS Prescription (  
    PrescriptionID INT NOT NULL,  
    Date DATE NULL,  
    PatientName VARCHAR(100) NULL,  
    DoctorName VARCHAR(50) NULL,  
    ContactInformation VARCHAR(100) NULL,  
    PharmacyID INT NULL,  
    CONSTRAINT pk_Prescription  
    PRIMARY KEY (PrescriptionID),  
    CONSTRAINT fk_Pharmacist_Pharmacy  
    FOREIGN KEY (PharmacyID)  
        REFERENCES Pharmacy(PharmacyID)  
    );
```

```
CREATE TABLE IF NOT EXISTS Medicine(  
    MedicineID INT NOT NULL,  
    Name VARCHAR(100) NULL,  
    Description VARCHAR(100) NULL,  
    Quantity INT NULL,  
    Price DECIMAL(10,2) NULL,  
    ExpiryDate DATE,  
    CONSTRAINT pk_medicine  
    PRIMARY KEY (MedicineID));
```

```
CREATE TABLE IF NOT EXISTS OrderDetails(
```

```
OrderDetailsID INT NOT NULL,  
Quantity INT NULL,  
Price DECIMAL(10,2) NULL,  
OrderID INT NULL,  
MedicineID INT NOT NULL,  
CONSTRAINT pk_Order  
PRIMARY KEY (OrderDetailsID),  
CONSTRAINT fk_medicine  
FOREIGN KEY (MedicineID)  
REFERENCES Medicine(MedicineID)  
);
```

```
CREATE TABLE IF NOT EXISTS Supplier(  
SupplierID INT NOT NULL,  
Name VARCHAR(100) NULL,  
ContactInformation VARCHAR(100) NULL,
```

```
CONSTRAINT pk_Supplier  
PRIMARY KEY (SupplierID));
```

```
CREATE TABLE IF NOT EXISTS Orders (  
OrderID INT NOT NULL,  
OrderDate DATE NULL,  
TotalAmount DECIMAL(10,2) NULL,  
SupplierID INT NULL,  
CONSTRAINT pk_Orderr  
PRIMARY KEY (OrderID),  
CONSTRAINT fk_supplier  
FOREIGN KEY (SupplierID)  
REFERENCES Supplier(SupplierID)  
);
```

```
CREATE TABLE IF NOT EXISTS PharmacySupplier (  
PharmacyID INT NOT NULL,  
SupplierID INT NOT NULL,  
CONSTRAINT pk_PharmacySupplier PRIMARY KEY (PharmacyID, SupplierID),  
CONSTRAINT fk_PharmacySupplier_Supplier FOREIGN KEY (SupplierID)  
REFERENCES Supplier(SupplierID),  
CONSTRAINT fk_PharmacySupplier_Pharmacy FOREIGN KEY (PharmacyID)  
REFERENCES Pharmacy(PharmacyID)  
);
```

```
CREATE TABLE IF NOT EXISTS PharmacyMedicine (  
PharmacyID INT NOT NULL,  
MedicineID INT NOT NULL,  
CONSTRAINT pk_PharmacyMedicine PRIMARY KEY (PharmacyID, MedicineID),
```

```

CONSTRAINT fk_PharmacyMedicine_Medicine FOREIGN KEY (MedicineID)
REFERENCES Medicine(MedicineID),
CONSTRAINT fk_PharmacyMedicine_Pharmacy FOREIGN KEY (PharmacyID)
REFERENCES Pharmacy(PharmacyID)
);

CREATE TABLE IF NOT EXISTS PrescriptionMedicine (
    MedicineID INT NOT NULL,
    PrescriptionID INT NOT NULL,
    CONSTRAINT pk_PharmacyMedicine PRIMARY KEY (MedicineID,PrescriptionID),
    CONSTRAINT fk_PharmacyPrescription_Prescription FOREIGN KEY (PrescriptionID)
    REFERENCES Prescription(PrescriptionID),
    CONSTRAINT fk_PharmacyPrescription_Medicine FOREIGN KEY (MedicineID)
    REFERENCES Medicine(MedicineID)
);

INSERT INTO `Pharmacy`(`PharmacyID`, `Name`, `Location`, `ContactInformation`) VALUES (1,'HealthPlus
Pharmacy','123 Wellness Blvd','123-456-7890');

INSERT INTO `Pharmacy`(`PharmacyID`, `Name`, `Location`, `ContactInformation`) VALUES (2,'CareWell
Pharmacy','456 Healthy Way','987-654-3210');

INSERT INTO `Pharmacy`(`PharmacyID`, `Name`, `Location`, `ContactInformation`) VALUES (3,'Wellness
Pharmacy','789 Health St','456-789-0123');

INSERT INTO `Pharmacy`(`PharmacyID`, `Name`, `Location`, `ContactInformation`) VALUES (4, 'Healthy
Life Pharmacy', '321 Wellness Lane', '321-654-9870');

INSERT INTO `Pharmacy`(`PharmacyID`, `Name`, `Location`, `ContactInformation`) VALUES
(5,'PharmaCare','147 Cure Ave','741-852-9630');

INSERT INTO `Supplier`(`SupplierID`, `Name`, `ContactInformation`) VALUES (1,'MedSupply
Co.','contact@medsupply.com');
INSERT INTO `Supplier`(`SupplierID`, `Name`, `ContactInformation`) VALUES (2,'HealthDistributor Inc.','
info@healthdistributor.com');
INSERT INTO `Supplier`(`SupplierID`, `Name`, `ContactInformation`) VALUES (3,' GlobalMed Supplies.','
support@globalmedsupplies.com')

INSERT INTO Medicine (MedicineID, Name, Description, Quantity, Price, ExpiryDate) VALUES
(1, 'Aspirin', 'Pain reliever', 100, 5.99, '2025-12-31'),
(2, 'Ibuprofen', 'Anti-inflammatory', 200, 8.99, '2024-10-01'),
(3, 'Paracetamol', 'Fever reducer', 150, 3.99, '2023-11-30'),
(4, 'Amoxicillin', 'Antibiotic', 250, 12.5, '2024-08-15'),
(5, 'Omeprazole', 'Acid reducer', 250, 15.49, '2024-11-20'),
(6, 'Prednisone', 'Steroid', 110, 9.99, '2024-08-22');

INSERT INTO `Prescription`(`PrescriptionID`, `Date`, `PatientName`, `DoctorName`, `ContactInformation`,
`PharmacyID`)
VALUES

```

```
(1, '2024-05-20', 'Alice Johnson', 'Dr. Emily Brown', 'alice.johnson@gmail.com', 1),
(2, '2024-05-22', 'Bob Williams', 'Dr. David Smith', 'bob.williams@gmail.com', 2),
(3, '2024-05-25', 'Charlie Davis', 'Dr. Susan Clark', 'charlie.davis@gmail.com', 3),
(4, '2024-05-27', 'Diana Evans', 'Dr. John White', 'diana.evans@gmail.com', 4),
(5, '2024-05-30', 'Edward Green', 'Dr. Nancy Taylor', 'edward.green@gmail.com', 5);
```

```
INSERT INTO `Orders` (`OrderID`, `OrderDate`, `TotalAmount`, `SupplierID`)
```

```
VALUES
```

```
(1, '2024-04-15', NULL, 1),
(2, '2024-04-18', NULL, 2),
(3, '2024-04-20', NULL, 2),
(4, '2024-05-02', NULL, 3),
(5, '2024-05-05', NULL, 1),
(6, '2024-05-06', NULL, 2),
(7, '2024-05-07', NULL, 2),
(8, '2024-05-08', NULL, 1),
(9, '2024-05-09', NULL, 1),
(10, '2024-05-10', NULL, 2),
(11, '2024-05-11', NULL, 2),
(12, '2024-05-12', NULL, 1),
(13, '2024-05-13', NULL, 3),
(14, '2024-05-14', NULL, 3),
(15, '2024-05-15', NULL, 3);
```

```
INSERT INTO OrderDetails (OrderDetailsID, Quantity, Price, OrderID, MedicineID)
```

```
VALUES
```

```
(1, 50, 5.99, 1, 1),
(2, 100, 8.99, 2, 2),
(3, 200, 3.99, 3, 3),
(4, 150, 12.5, 4, 4),
(5, 120, 6.49, 5, 5),
(6, 200, 9.99, 6, 6),
(7, 150, 9.99, 7, 6),
(8, 190, 3.99, 8, 3),
(9, 100, 3.99, 9, 3),
(10, 140, 5.99, 10, 1),
(11, 300, 6.49, 11, 5),
(12, 191, 12.5, 12, 4),
(13, 113, 8.99, 13, 2),
(14, 141, 8.99, 14, 2),
(15, 120, 6.49, 15, 5);
```

```
INSERT INTO PrescriptionMedicine (PrescriptionID, MedicineID)
```

```
VALUES
```

```
(1, 1),
(1, 2),
(2, 6),
(2, 4),
(3, 4),
(3, 5),
```

```
(4, 6),  
(5, 5),  
(1, 3),  
(3, 1),  
(5, 6);
```

```
INSERT INTO PharmacyMedicine (PharmacyID, MedicineID) VALUES
```

```
(1, 2),  
(2, 1),  
(3, 1),  
(3, 6),  
(2, 2),  
(5, 2),  
(1, 4),  
(5, 1),  
(2, 6),  
(4, 6),  
(2, 3),  
(4, 3),  
(2, 5);
```

```
INSERT INTO PharmacySupplier (PharmacyID, SupplierID) VALUES
```

```
(1, 1),  
(2, 2),  
(3, 3),  
(4, 3),  
(5, 2),  
(4, 2),  
(2, 1),  
(3, 1),  
(1, 3),  
(5, 3);
```

```
INSERT INTO `Pharmacist`(`PharmacistID`, `Name`, `ContactInformation`, `LicenseNumber`, `PharmacyID`)  
VALUES (1,'Tazmeen', 'tazmeen@example.com', '11111', 1),(2,'Ali Tooba', 'ali.tooba@example.com', '22222',  
2);
```

```
SELECT * FROM Pharmacy WHERE Name NOT LIKE '%L';
```

```
MariaDB [pharmacyDb]> SELECT * FROM Pharmacy WHERE Name NOT LIKE '%L';
```

PharmacyID	Name	Location	ContactInformation
1	HealthPlus Pharmacy	123 Wellness Blvd	123-456-7890
2	CareWell Pharmacy	456 Healthy Way	987-654-3210
3	Wellness Pharmacy	789 Health St	456-789-0123
5	PharmaCare	147 Cure Ave	741-852-9630

```
SELECT Name FROM Medicine WHERE ExpiryDate < CURDATE();
```

```
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [pharmacyDb]> SELECT Name FROM Medicine WHERE ExpiryDate < CURDATE();
```

Name
Paracetamol

```
1 row in set (0.001 sec)
```

```
SELECT DISTINCT Prescription.PatientName FROM Prescription
JOIN PrescriptionMedicine ON Prescription.PrescriptionID = PrescriptionMedicine.PrescriptionID
JOIN Medicine ON PrescriptionMedicine.MedicineID = Medicine.MedicineID
WHERE Medicine.Description LIKE '%Steroid%';
```

```
MariaDB [pharmacyDb]> SELECT DISTINCT Prescription.PatientName FROM Prescription
-> JOIN PrescriptionMedicine ON Prescription.PrescriptionID = PrescriptionMe
dicine.PrescriptionID
-> JOIN Medicine ON PrescriptionMedicine.MedicineID = Medicine.MedicineID
-> WHERE Medicine.Description LIKE '%Steroid%';
```

PatientName
Bob Williams
Diana Evans
Edward Green

```
3 rows in set (0.000 sec)
```

```
SELECT SUM(OrderDetails.Quantity) FROM OrderDetails
JOIN Medicine ON OrderDetails.MedicineID = Medicine.MedicineID
WHERE Medicine.Name = 'Paracetamol';
```

3 rows in set (0.000 sec)

```
MariaDB [pharmacyDb]> SELECT SUM(OrderDetails.Quantity) FROM OrderDetails
-> JOIN Medicine ON OrderDetails.MedicineID = Medicine.MedicineID
-> WHERE Medicine.Name = 'Paracetamol';
```

```
+-----+
| SUM(OrderDetails.Quantity) |
+-----+
|                490        |
+-----+
```

1 row in set (0.002 sec)

```
CREATE VIEW Qty_view AS SELECT  Name AS 'Medicine Name', AVG(Quantity) AS 'Average Quantity',
Price AS 'Unit Price'
FROM  Medicine
WHERE  Name IN ('Ibuprofen', 'Amoxicillin', 'Prednisone')
GROUP BY Name, Price;
UPDATE Orders o,
      (SELECT OrderDetails.OrderID, SUM(Medicine.Price * OrderDetails.Quantity) AS total_amount
FROM Medicine
JOIN OrderDetails ON Medicine.MedicineID = OrderDetails.MedicineID
GROUP BY OrderDetails.OrderID) subquery
SET o.TotalAmount = subquery.total_amount
WHERE o.OrderID = subquery.OrderID;
```

```
CREATE USER 'tazmeen'@'localhost' IDENTIFIED BY '22P-9252';
GRANT SELECT ON pharmacyDb.Qty_view TO 'tazmeen'@'localhost';
```

```
SELECT
    Pharmacy.Name AS 'Pharmacy Name', Pharmacist.Name AS 'Pharmacist Name',
    Prescription.Date AS 'Prescription Date', Supplier.Name AS 'Supplier Name'
FROM Orders
INNER JOIN PharmacySupplier ON Orders.SupplierID = PharmacySupplier.SupplierID
INNER JOIN Pharmacy ON PharmacySupplier.PharmacyID = Pharmacy.PharmacyID
INNER JOIN Pharmacist ON Pharmacy.PharmacyID = Pharmacist.PharmacyID
INNER JOIN Prescription ON Pharmacy.PharmacyID = Prescription.PharmacyID
INNER JOIN Supplier ON PharmacySupplier.SupplierID = Supplier.SupplierID
ORDER BY Orders.OrderID;
```

Pharmacy Name	Pharmacist Name	Prescription Date	Supplier Name
HealthPlus Pharmacy	Tazmeen	2024-05-20	MedSupply Co.
CareWell Pharmacy	Ali Tooba	2024-05-22	MedSupply Co.
CareWell Pharmacy	Ali Tooba	2024-05-22	HealthDistributor Inc.
CareWell Pharmacy	Ali Tooba	2024-05-22	HealthDistributor Inc.
HealthPlus Pharmacy	Tazmeen	2024-05-20	GlobalMed Supplies.
HealthPlus Pharmacy	Tazmeen	2024-05-20	MedSupply Co.
CareWell Pharmacy	Ali Tooba	2024-05-22	MedSupply Co.
CareWell Pharmacy	Ali Tooba	2024-05-22	HealthDistributor Inc.
CareWell Pharmacy	Ali Tooba	2024-05-22	HealthDistributor Inc.
HealthPlus Pharmacy	Tazmeen	2024-05-20	MedSupply Co.
CareWell Pharmacy	Ali Tooba	2024-05-22	MedSupply Co.
HealthPlus Pharmacy	Tazmeen	2024-05-20	MedSupply Co.
CareWell Pharmacy	Ali Tooba	2024-05-22	MedSupply Co.
CareWell Pharmacy	Ali Tooba	2024-05-22	HealthDistributor Inc.
CareWell Pharmacy	Ali Tooba	2024-05-22	HealthDistributor Inc.
HealthPlus Pharmacy	Tazmeen	2024-05-20	MedSupply Co.
CareWell Pharmacy	Ali Tooba	2024-05-22	MedSupply Co.
HealthPlus Pharmacy	Tazmeen	2024-05-20	GlobalMed Supplies.
HealthPlus Pharmacy	Tazmeen	2024-05-20	GlobalMed Supplies.
HealthPlus Pharmacy	Tazmeen	2024-05-20	GlobalMed Supplies.

```

DELIMITER //
CREATE TRIGGER prevent_totalamount_update
BEFORE UPDATE ON Orders
FOR EACH ROW
BEGIN
    SIGNAL SQLSTATE '45000'
    SET MESSAGE_TEXT = 'Cannot update the Orders table';
END;
//
DELIMITER ;

```

```

SELECT Pharmacy.Name,
       (SELECT COUNT(DISTINCT MedicineID)
        FROM PharmacyMedicine
        WHERE PharmacyMedicine.PharmacyID = Pharmacy.PharmacyID) AS TotalMedicines
FROM Pharmacy;

```

Name	TotalMedicines
HealthPlus Pharmacy	2
CareWell Pharmacy	5
Wellness Pharmacy	2
Healthy Life Pharmacy	2
PharmaCare	2

```

SELECT Pharmacy.Name AS PharmacyName, Pharmacist.Name AS PharmacistName
FROM Pharmacy
LEFT JOIN Pharmacist ON Pharmacy.PharmacyID = Pharmacist.PharmacyID;

```


-- LEFT JOIN Pharmacists ON Pharmacy.PharmacyID = Pharmacists.PharmacyID;

PharmacyName	PharmacistName
HealthPlus Pharmacy	Tazmeen
CareWell Pharmacy	Ali Tooba
Wellness Pharmacy	NULL
Healthy Life Pharmacy	NULL
PharmaCare	NULL

DELIMITER //

```
CREATE PROCEDURE INFO(  
    IN medicine_id INT,  
    IN quantity_threshold INT  
)
```

```
BEGIN  
    SELECT p.PharmacistID, p.Name, p.ContactInformation, p.LicenseNumber, p.PharmacyID  
    FROM Pharmacist p  
    JOIN PharmacyMedicine pm ON p.PharmacyID = pm.PharmacyID  
    JOIN Medicine m ON pm.MedicineID = m.MedicineID  
    WHERE m.MedicineID = medicine_id  
    GROUP BY p.PharmacistID, p.Name, p.ContactInformation, p.LicenseNumber, p.PharmacyID  
    HAVING SUM(m.Quantity) > quantity_threshold;  
END //
```

```
CREATE PROCEDURE Presc_info(  
    IN start_date DATE,  
    IN end_date DATE,  
    IN prescription_threshold INT  
)
```

```
BEGIN  
    SELECT p.PharmacistID, p.Name, p.ContactInformation, p.LicenseNumber, p.PharmacyID  
    FROM Pharmacist p  
    JOIN Pharmacy ph ON p.PharmacyID = ph.PharmacyID  
    JOIN Prescription pr ON ph.PharmacyID = pr.PharmacyID  
    WHERE pr.Date BETWEEN start_date AND end_date  
    GROUP BY p.PharmacistID, p.Name, p.ContactInformation, p.LicenseNumber, p.PharmacyID  
    HAVING COUNT(pr.PrescriptionID) > prescription_threshold;  
END //
```

