Creation of table:

1. **tblColours**

CREATE TABLE tblColours (

ColourID INT PRIMARY KEY,

Colour VARCHAR(50) NOT NULL

);

-- Insert data

INSERT INTO tblColours (ColourID, Colour) VALUES

(1, 'Yellow'),

(2, 'Green'),

(3, 'Orange'),

(4, 'Red');

1. **tblSizes**

CREATE TABLE tblSizes (

SizeID INT PRIMARY KEY,

Size VARCHAR(50) NOT NULL

);

-- Insert data

INSERT INTO tblSizes (SizeID, Size) VALUES

(1, 'Small'),

(2, 'Medium'),

(3, 'Large');

1. **tblCountries**

CREATE TABLE tblCountries (

CountryID INT PRIMARY KEY,

Country VARCHAR(50) NOT NULL

);

-- Insert data

INSERT INTO tblCountries (CountryID, Country) VALUES

(1, 'Spain'),

(2, 'France'),

(3, 'Morocco'),

(4, 'Brazil'),

(5, 'Italy');

1. **tblSuppliers**

CREATE TABLE tblSuppliers (

SupplierID INT PRIMARY KEY,

SupplierName VARCHAR(100) NOT NULL,

Contact VARCHAR(20)

);

-- Insert data

INSERT INTO tblSuppliers (SupplierID, SupplierName, Contact) VALUES

(1, 'FreshFruits Ltd', '01234 567890'),

(2, 'GreenHarvest', '09876 543210'),

(3, 'TropicWorld', '01111 222333');

1. **tblFruit**

CREATE TABLE tblFruit (

FruitID INT PRIMARY KEY,

Name VARCHAR(50) NOT NULL,

Price VARCHAR(10),

ColourID INT,

SizeID INT,

CountryID INT,

SupplierID INT,

FOREIGN KEY (ColourID) REFERENCES tblColours(ColourID),

FOREIGN KEY (SizeID) REFERENCES tblSizes(SizeID),

FOREIGN KEY (CountryID) REFERENCES tblCountries(CountryID),

FOREIGN KEY (SupplierID) REFERENCES tblSuppliers(SupplierID)

);

-- Insert data

INSERT INTO tblFruit (FruitID, Name, Price, ColourID, SizeID, CountryID, SupplierID) VALUES

(1, 'Lemon', '£1', 1, 2, 1, 1),

(2, 'Apple', '£2', 2, 2, 2, 2),

(3, 'Orange', '£3', 3, 2, 3, 1),

(4, 'Pineapple', '£2', 1, 3, 4, 3),

(5, 'Grape', '£1', 2, 1, 2, 2),

(6, 'Banana', '£1', 1, 2, 1, 1);

1. **tblSales**

CREATE TABLE tblSales (

SaleID INT PRIMARY KEY,

FruitID INT,

Quantity INT,

SaleDate DATE,

FOREIGN KEY (FruitID) REFERENCES tblFruit(FruitID)

);

-- Insert data

INSERT INTO tblSales (SaleID, FruitID, Quantity, SaleDate) VALUES

(1, 1, 10, '2025-05-01'),

(2, 2, 5, '2025-06-02'),

(3, 3, 8, '2025-07-01'),

(4, 4, 2, '2025-07-03'),

(5, 5, 15, '2025-07-03'),

(6, 6, 7, '2025-07-02');

1. **List all fruits with their colours and sizes.**

SELECT

f.Name AS Fruit,

c.Colour,

s.Size

FROM tblFruit f

JOIN tblColours c ON f.ColourID = c.ColourID

JOIN tblSizes s ON f.SizeID = s.SizeID;

**2. Find all fruits supplied by "GreenHarvest" that are medium size.**

SELECT

f.Name AS Fruit,

c.Colour,

s.Size,

sup.SupplierName

FROM tblFruit f

JOIN tblSizes s ON f.SizeID = s.SizeID

JOIN tblSuppliers sup ON f.SupplierID = sup.SupplierID

JOIN tblColours c ON f.ColourID = c.ColourID

WHERE sup.SupplierName = 'GreenHarvest'

AND s.Size = 'Medium';

**3. List all countries and any fruits grown there (include countries with no fruits).**

SELECT

co.Country,

f.Name AS Fruit

FROM tblCountries co

LEFT JOIN tblFruit f ON co.CountryID = f.CountryID

ORDER BY co.Country;

**4. Show all suppliers and the fruits they supply, including suppliers who currently supply no fruits.**

SELECT

sup.SupplierName,

f.Name AS Fruit

FROM tblSuppliers sup

LEFT JOIN tblFruit f ON sup.SupplierID = f.SupplierID

ORDER BY sup.SupplierName;

**5. List all fruits and all suppliers, matching where possible, but showing all even if there is no match.**

SELECT

f.Name AS Fruit,

sup.SupplierName

FROM tblFruit f

FULL OUTER JOIN tblSuppliers sup

ON f.SupplierID = sup.SupplierID

ORDER BY f.Name, sup.SupplierName;

**6. For each sale, display the fruit name, country of origin, supplier name, and sale quantity.**

SELECT

f.Name AS Fruit,

co.Country AS CountryOfOrigin,

sup.SupplierName,

sa.Quantity AS SaleQuantity

FROM tblSales sa

JOIN tblFruit f ON sa.FruitID = f.FruitID

JOIN tblCountries co ON f.CountryID = co.CountryID

JOIN tblSuppliers sup ON f.SupplierID = sup.SupplierID

ORDER BY sa.SaleID;

**7. Which country has sold the highest total quantity of fruits?**

SELECT

co.Country,

SUM(sa.Quantity) AS TotalQuantity

FROM tblSales sa

JOIN tblFruit f ON sa.FruitID = f.FruitID

JOIN tblCountries co ON f.CountryID = co.CountryID

GROUP BY co.Country

ORDER BY TotalQuantity DESC

LIMIT 1;

**8. List the names of fruits that have never been sold.**

SELECT f.Name AS Fruit

FROM tblFruit f

LEFT JOIN tblSales sa ON f.FruitID = sa.FruitID

WHERE sa.SaleID IS NULL;

**9. Are there any fruits with the same colour but different sizes? List their names. Margin and collateral intelligence for derivatives.**

SELECT c.Colour, GROUP\_CONCAT(f.Name) AS Fruits

FROM tblFruit f

JOIN tblColours c ON f.ColourID = c.ColourID

GROUP BY c.Colour

HAVING COUNT(DISTINCT f.SizeID) > 1;

**10. For each sale, display the sale date, fruit name, fruit colour, fruit size, country of origin, supplier name, and quantity sold. Order the results by sale date and fruit name.**

SELECT

sa.SaleDate,

f.Name AS Fruit,

c.Colour AS FruitColour,

s.Size AS FruitSize,

co.Country AS CountryOfOrigin,

sup.SupplierName,

sa.Quantity AS QuantitySold

FROM tblSales sa

JOIN tblFruit f ON sa.FruitID = f.FruitID

JOIN tblColours c ON f.ColourID = c.ColourID

JOIN tblSizes s ON f.SizeID = s.SizeID

JOIN tblCountries co ON f.CountryID = co.CountryID

JOIN tblSuppliers sup ON f.SupplierID = sup.SupplierID

ORDER BY sa.SaleDate, f.Name;