CREATE TABLE IF NOT EXISTS Supplier

(

SNr VARCHAR(4) CHECK (SNr REGEXP 'S[0-9]{3}' ),

SName VARCHAR(50) UNIQUE,

DateofBusiness DATE,

City VARCHAR(50) CHECK ( City REGEXP ('^[A-Z]')),

CONSTRAINT supplier\_pkey PRIMARY KEY (SNr)

);

CREATE TABLE IF NOT EXISTS Article

(

ANr VARCHAR(4) CHECK (ANr REGEXP 'A[0-9]{2}' ),

AName VARCHAR(50) UNIQUE,

Color VARCHAR(10),

Weight INT,

City VARCHAR(50),

CONSTRAINT article\_pkey PRIMARY KEY (ANr),

CONSTRAINT article\_color\_check CHECK (Color IN ('WHITE', 'BLACK', 'RED'))

);

CREATE TABLE IF NOT EXISTS Delivery

(

SNr VARCHAR(4),

ANr VARCHAR(4),

Qty INT,

CONSTRAINT article\_fkey FOREIGN KEY (ANr) REFERENCES Article (ANr),

CONSTRAINT supplier\_fkey FOREIGN KEY (SNr) REFERENCES Supplier (SNr),

CONSTRAINT delivery\_pkey PRIMARY KEY (SNr, ANr)

);

INSERT INTO Supplier

VALUES ('S001', 'KENSTAR', STR\_TO\_DATE('01/01/2002', '%d/%m/%Y'), 'Chennai'),

('S002', 'SAMSUNG', STR\_TO\_DATE('12/10/2001', '%d/%m/%Y'), 'Cbe'),

('S003', 'ELGI', STR\_TO\_DATE('20/02/1999', '%d/%m/%Y'), 'Cbe'),

('S004', 'PHILIPS', STR\_TO\_DATE('10/12/1999', '%d/%m/%Y'), 'Delhi');

INSERT INTO Article

VALUES ('A01', 'MOBILE', 'BLACK', 100, 'Cbe'),

('A02', 'MICROWAVE', 'WHITE', 1500, 'Bombay'),

('A03', 'AIR COOLER', 'WHITE', 2000, 'Cbe'),

('A04', 'REFRIGIRATOR', 'RED', 10000, 'Delhi');

INSERT INTO Delivery

VALUES ('S003', 'A01', 1000),

('S002', 'A02', 200),

('S003', 'A02', 500),

('S004', 'A03', 10),

('S002', 'A04', 50),

('S003', 'A03', 25),

('S001', 'A02', 55),

('S001', 'A03', 200),

('S001', 'A04', 78),

('S001', 'A01', 67);

Q1)

|  |
| --- |
|  |

SELECT SNr, ANr FROM Delivery WHERE SNr IN (SELECT SNr FROM Delivery GROUP BY SNr HAVING COUNT(\*) > 1);

Q2)

SELECT ANr,Qty FROM Delivery WHERE ANr IN (SELECT ANr FROM (SELECT ANr,RANK() OVER (ORDER BY City) AS ranking FROM Article) selection WHERE ranking = 1);

Q3)

SELECT DISTINCT SNr FROM Delivery WHERE ANr IN (SELECT DISTINCT ANr FROM Delivery WHERE SNr IN (SELECT DISTINCT SNr FROM Delivery INNER JOIN Article ON Delivery.ANr = Article.ANr AND Article.Color = 'RED'));

Q4)

SELECT ANr FROM Delivery INNER JOIN Article A USING (ANr) INNER JOIN Supplier S USING (SNr)

WHERE A.City = 'Cbe' AND S.City = 'Cbe';

Q5)

IT VIOLATES THE CONSTRAINTS!!

Q6)

ALTER TABLE Article DROP CONSTRAINT article\_color\_check;

ALTER TABLE Article ADD CONSTRAINT article\_color\_check CHECK (Color IN ('WHITE', 'BLACK' , 'RED', 'GREEN'));

INSERT INTO Article VALUE ('A05', 'WASHING MACHINE', 'GREEN', 20000, 'Cbe');

Q7)

SELECT SNr, DateofBusiness FROM Delivery INNER JOIN Article A USING (ANr) INNER JOIN Supplier S USING (SNr) WHERE A.Color = 'BLACK';

Q8)

SELECT SName FROM Supplier WHERE SNr IN (SELECT SNr FROM (SELECT SNr, RANK() OVER (ORDER BY COUNT(DISTINCT ANr) DESC) AS ranking FROM Delivery GROUP BY SNr) selection

WHERE ranking = 1);

Q9)

SELECT SName FROM Supplier WHERE SNr IN (SELECT SNr FROM (SELECT SNr, RANK() OVER (ORDER BY SUM(Qty) DESC) AS ranking FROM Delivery GROUP BY SNr) selection

WHERE ranking = 1);

Q10)

SELECT SName FROM Supplier WHERE SNr IN (SELECT SNr FROM (SELECT SNr, RANK() OVER (ORDER BY SUM(Qty) DESC) AS ranking FROM Delivery GROUP BY SNr) selection

WHERE ranking = 2);

Q11)

SELECT \* FROM Delivery WHERE SNr IN (SELECT SNr FROM Supplier WHERE City IN (SELECT City FROM Supplier GROUP BY City HAVING COUNT(City) > 1));

Q12)

SELECT \* FROM Delivery WHERE SNr IN (SELECT SNr FROM Supplier WHERE City IN (SELECT City FROM Supplier GROUP BY City HAVING COUNT(City) = 1));

Q13)

SELECT SNR, DateofBusiness FROM Supplier WHERE SNr IN (SELECT SNr FROM Delivery GROUP BY SNr HAVING SUM(Qty) = 250);

Q14)

SELECT A.\* FROM Delivery INNER JOIN Article A USING (ANr) INNER JOIN Supplier S USING (SNr)

WHERE S.SName = 'ELGI';

Q15)

SELECT A.\* FROM Article A WHERE A.ANr IN (SELECT ANr FROM (SELECT ANr, RANK() OVER (ORDER BY SUM(Qty) DESC) AS ranking FROM Delivery GROUP BY ANr) selection

WHERE ranking = 1);

Q16)

SELECT DISTINCT S.City FROM Delivery INNER JOIN Article A USING (ANr) INNER JOIN Supplier S USING (SNr) WHERE A.AName = 'MICROWAVE';

Q17)

SELECT S.City FROM Delivery INNER JOIN Article A USING (ANr) INNER JOIN Supplier S USING (SNr) WHERE A.AName = 'MICROWAVE' GROUP BY S.City HAVING COUNT(\*) > 1;

Q18)

SELECT SNr, AName, Weight, Color FROM Delivery INNER JOIN Article A USING (ANr) INNER JOIN Supplier S USING (SNr) WHERE (A.Color, SNr) IN (SELECT A.Color, SNr FROM Delivery INNER JOIN Article A USING (ANr) INNER JOIN Supplier S USING (SNr) GROUP BY A.Color, SNrHAVING COUNT(SNr) > 1) ORDER BY SNr;

Q19)

SELECT \* FROM Delivery INNER JOIN Supplier S USING (SNr) INNER JOIN Article A USING (ANr)

ORDER BY SNr;

Q20)

SELECT A.\* FROM Delivery INNER JOIN Article A USING (ANr) ORDER BY SNr;

Q21)

SELECT A.\* FROM Delivery INNER JOIN Article A USING (ANr) WHERE SNr = (SELECT SNr FROM Supplier ORDER BY SName DESC LIMIT 1);

Q22)

SELECT DISTINCT SName FROM Delivery INNER JOIN Supplier S USING (SNr) INNER JOIN Article A USING (ANr) WHERE A.AName = 'MICROWAVE';

Q23)

SELECT SName FROM Supplier WHERE SNr NOT IN (SELECT DISTINCT SNr FROM Delivery INNER JOIN Article ON Delivery.ANr = Article.ANr AND Article.AName = 'MOBILE');

Q24)

SELECT DISTINCT SName FROM Delivery INNER JOIN Supplier S USING (SNr) INNER JOIN Article A USING (ANr) GROUP BY SName HAVING COUNT(DISTINCT ANr) = (SELECT COUNT(\*) FROM Article);

Q25)

SELECT DISTINCT SName FROM Supplier JOIN Delivery USING (SNr) WHERE ANr IN (SELECT ANr FROM Delivery WHERE SNr = 'S002');

Q26)

SELECT SNr, City FROM Supplier WHERE City IN (Select City FROM Supplier GROUP BY City HAVING COUNT(\*) > 1);

Q27)

SELECT ANr FROM Article WHERE ANr NOT IN (SELECT DISTINCT D.ANr FROM Supplier

INNER JOIN Delivery D on Supplier.SNr = D.SNr AND Supplier.City = 'Delhi');

Q28)

SELECT SNr

FROM Supplier

WHERE City = (Select City FROM Supplier ORDER BY City LIMIT 1);

# QN 29

SELECT ANr

FROM Article

WHERE Weight > 2000

AND ANr IN (SELECT ANr FROM Delivery GROUP BY ANr HAVING COUNT(ANr) IN (SELECT COUNT(SNr) FROM Supplier));

# QN 30

SELECT AName FROM Article INNER JOIN Delivery USING (ANr) WHERE ANr NOT IN (SELECT DISTINCT ANr FROM Delivery WHERE SNr != 'S001');

OUTPUTS

















