CREATE TABLE EMP

(

Empno INT,

Empname VARCHAR(30),

Empsalary INT,

Deptname VARCHAR(30) NULL,

Bossno INT NULL,

PRIMARY KEY (Empno),

FOREIGN KEY (Bossno) REFERENCES EMP (Empno)

);

CREATE TABLE DEPARTMENT

(

Deptname VARCHAR(30) PRIMARY KEY,

Deptfloor INT,

Deptphone INT,

MgrId INT NOT NULL,

FOREIGN KEY (MgrId) REFERENCES EMP (Empno)

);

CREATE TABLE ITEM

(

itemname VARCHAR(30) PRIMARY KEY,

itemtype CHARACTER,

itemcolor varchar(10)

);

CREATE TABLE SALES

(

Salesno INT PRIMARY KEY,

Saleqty INT,

itemname varchar(30) NOT NULL,

Deptname VARCHAR(30) NOT NULL,

FOREIGN KEY (itemname) REFERENCES ITEM (itemname),

FOREIGN KEY (Deptname) REFERENCES DEPARTMENT (Deptname)

);

INSERT INTO EMP

VALUES (1, 'Alice ', 75000, 'Management', NULL),

(2, 'Ned', 45000, 'Marketing', 1),

(3, 'Andrew', 25000, 'Marketing', 2),

(4, 'Clare', 22000, 'Marketing', 2),

(5, 'Todd', 38000, 'Accounting', 1),

(6, 'Nancy', 22000, 'Accounting', 5),

(7, 'Brier', 43000, 'Purchasing', 1),

(8, 'Sarah', 56000, 'Purchasing', 7),

(9, 'Sophile', 35000, 'Personnel', 1),

(10, 'Sanjay', 15000, 'Navigation', 3),

(11, 'Rita', 15000, 'Books', 4),

(12, 'Gigi', 16000, 'Clothes', 4),

(13, 'Maggie', 11000, 'Clothes', 4),

(14, 'Paul', 15000, 'Equipment', 3),

(15, 'James', 15000, 'Equipment', 3),

(16, 'Pat', 15000, 'Furniture', 3),

(17, 'Mark', 15000, 'Recreation', 3);

INSERT INTO DEPARTMENT VALUES ('Management', 5, 34, 1),

('Books', 1, 81, 4),

('Clothes', 2, 24, 4),

('Equipment', 3, 57, 3),

('Furniture', 4, 14, 3),

('Navigation', 1, 41, 3),

('Recreation', 2, 29, 4),

('Accounting', 5, 35, 5),

('Purchasing', 5, 36, 7),

('Personnel', 5, 37, 9),

('Marketing', 5, 38, 2);

ALTER TABLE EMP ADD FOREIGN KEY (Deptname) REFERENCES DEPARTMENT (Deptname);

INSERT INTO ITEM VALUES ('Pocket Knife-Nile', 'E', 'Brown'),

('Pocket Knife-Avon', 'E', 'Brown'),

('Compass', 'N', NULL),

('Geo positioning system', 'N', NULL),

('Elephant Polo stick', 'R', 'Bamboo'),

('Camel Saddle', 'R', 'Brown'),

('Sextant', 'N', NULL),

('Map Measure', 'N', NULL),

('Boots-snake proof', 'C', 'Green'),

('Pith Helmet', 'C', 'Khaki'),

('Hat-polar Explorer', 'C', 'White'),

('Exploring in 10 Easy Lessons', 'B', NULL),

('Hammock', 'F', 'Khaki'),

('How to win Foreign Friends', 'B', NULL),

('Map case', 'E', 'Brown'),

('Safari Chair', 'F', 'Khaki'),

('Safari cooking kit', 'F', 'Khaki'),

('Stetson', 'C', 'Black'),

('Tent - 2 person', 'F', 'Khaki'),

('Tent -8 person', 'F', 'Khaki');

INSERT INTO SALES VALUES (101, 2, 'Boots-snake proof', 'Clothes'),

(102, 1, 'Pith Helmet', 'Clothes'),

(103, 1, 'Sextant', 'Navigation'),

(104, 3, 'Hat-polar Explorer', 'Clothes'),\

(105, 5, 'Pith Helmet', 'Equipment'),

(106, 2, 'Pocket Knife-Nile', 'Clothes'),

(107, 3, 'Pocket Knife-Nile', 'Recreation'),

(108, 1, 'Compass', 'Navigation'),

(109, 2, 'Geo positioning system', 'Navigation'),

(110, 5, 'Map Measure', 'Navigation'),

(111, 1, 'Geo positioning system', 'Books'),

(112, 1, 'Sextant', 'Books'),

(113, 3, 'Pocket Knife-Nile', 'Books'),

(114, 1, 'Pocket Knife-Nile', 'Navigation'),

(115, 1, 'Pocket Knife-Nile', 'Equipment'),

(116, 1, 'Sextant', 'Clothes'),

(117, 1, 'Sextant', 'Equipment'),

(118, 1, 'Sextant', 'Recreation'),

(119, 1, 'Sextant', 'Furniture'),

(120, 1, 'Pocket Knife-Nile', 'Furniture'),

(121, 1, 'Exploring in 10 easy lessons', 'Books'),

(122, 1, 'How to win foreign friends', 'Books'),

(123, 1, 'Compass', 'Books'),

(124, 1, 'Pith Helmet', 'Books'),

(125, 1, 'Elephant Polo stick', 'Recreation'),

(126, 1, 'Camel Saddle', 'Recreation');

Q1)

SELECT DISTINCT Deptname FROM DEPARTMENT;

Q2)

SELECT \* FROM EMP INNER JOIN DEPARTMENT D ON EMP.Empno = D.MgrId;

Q3)

SELECT itemname, sum(Saleqty) AS 'Total Quantity' FROM SALES GROUP BY itemname;

Q4)

SELECT itemname FROM ITEM WHERE itemtype IN ('E', 'F');

Q5)

SELECT itemname FROM ITEM WHERE itemcolor IS NULL;

Q6)

SELECT itemcolor, COUNT(\*) FROM ITEM WHERE itemcolor IS NOT NULL GROUP BY itemcolor

ORDER BY COUNT(\*) DESC LIMIT 1;

Q7)

SELECT itemname FROM ITEM WHERE itemtype BETWEEN 'E' AND 'K' AND itemcolor IN ('Kakhi', 'Brown');

Q8)

SELECT itemname FROM ITEM WHERE itemtype IN ('E', 'N') AND itemcolor = 'Brown';

Q9)

SELECT \* FROM ITEM WHERE itemtype = 'R';

Q10)

SELECT \* FROM ITEM WHERE itemcolor = 'Red';

Q11)

SELECT itemname FROM ITEM WHERE itemtype = 'C' AND itemcolor = 'Red';

Q12)

SELECT itemname FROM ITEM GROUP BY itemname HAVING COUNT(DISTINCT itemcolor) > 1;

Q13)

SELECT \* FROM ITEM WHERE SUBSTRING(itemname, 1, 1) IN ('S', 'R');

Q14)

SELECT \* FROM ITEM WHERE itemname LIKE '%Knife%';

Q15)

SELECT \* FROM ITEM WHERE SUBSTRING(itemname, 3, 1) = 't';

Q16)

SELECT \* FROM ITEM WHERE itemname IN (SELECT DISTINCT itemname FROM SALES WHERE Deptname = 'Clothes') AND itemtype = 'C';

Q17)

SELECT \* FROM ITEM WHERE itemtype = 'C';

Q18)

SELECT \* FROM ITEM WHERE itemname NOT IN (SELECT DISTINCT itemname FROM SALES WHERE Deptname = 'Clothes') AND itemtype = 'C';

Q19)

TODO

Q20)

SELECT \* FROM ITEM WHERE itemcolor = 'Brown';

Q21)

SELECT itemname FROM SALES WHERE Saleqty > 1;

Q22)

# TODO

Q23)

SELECT itemname FROM SALES WHERE Deptname = 'Furniture';

Q24)

SELECT \* FROM ITEM WHERE itemname IN (SELECT itemname FROM SALES WHERE Salesno BETWEEN 107 AND 112 OR Salesno BETWEEN 121 AND 126);

Q25)

SELECT Deptname, SUM(Saleqty) FROM SALES GROUP BY Deptname;

Q26)

SELECT itemname FROM SALES S INNER JOIN ITEM I USING (itemname) WHERE itemcolor = 'Green';

Q27)

SELECT DISTINCT I.\* FROM ITEM I INNER JOIN SALES S USING (itemname)

WHERE Deptname != 'Books';

Q28)

SELECT DISTINCT Deptname FROM SALES WHERE Deptname NOT IN (SELECT Deptname FROM SALES WHERE itemname = 'Geo positioning system');

Q29)

SELECT Deptname FROM SALES WHERE Deptname IN (SELECT DISTINCT Deptname FROM SALES WHERE itemname = 'Compass') GROUP BY Deptname HAVING COUNT(DISTINCT itemname) > 2;

Q30)

SELECT Deptname FROM SALES GROUP BY Deptname HAVING COUNT(itemname) >= 4;

Q31)

SELECT E.\* FROM EMP E INNER JOIN EMP B ON E.Bossno = B.Empno AND E.Deptname != B.Deptname;

Q32)

SELECT E.\* FROM EMP E INNER JOIN EMP B ON E.Bossno = B.Empno AND E.Empsalary < B.Empsalary / 2;

Q33)

SELECT I.\* FROM ITEM I INNER JOIN SALES S USING (itemname) INNER JOIN DEPARTMENT D USING (Deptname)WHERE itemcolor = 'Green' AND Deptfloor = 2;

Q34)

SELECT itemname FROM SALES GROUP BY itemname HAVING COUNT(Deptname) >= 2;

Q35)

SELECT \*FROM SALES WHERE Deptname NOT IN ('Clothes', 'Books');

Q36)

SELECT \*FROM EMP WHERE Deptname = 'Marketing' ORDER BY Empsalary DESC LIMIT 1;

Q37)

SELECT Empname FROM EMP WHERE Empsalary < (SELECT AVG(Empsalary) FROM EMP) \* 0.9;

Q38)

SELECT Empname FROM EMP WHERE Empsalary > (SELECT MIN(Empsalary) FROM EMP WHERE Empno IN (SELECT DISTINCT Bossno FROM EMP));

Q39)

SELECT DISTINCT Deptname FROM SALES WHERE Deptname NOT IN (SELECT DISTINCT Deptname FROM SALES WHERE itemname IN ('Compass', 'Geo positioning system'));

Q40)

SELECT Empname FROM EMP WHERE Empsalary < 10000;

Q41)

SELECT COUNT(\*) FROM ITEM I INNER JOIN SALES S USING (itemname) INNER JOIN DEPARTMENT D USING (Deptname) WHERE Deptfloor = 3 AND itemtype = 'E';

Q42)

SELECT itemname, COUNT(\*) FROM SALES S INNER JOIN ITEM I USING (itemname)

GROUP BY itemname;

Q43)

SELECT itemname FROM ITEM WHERE itemcolor = 'Green' AND itemname IN (SELECT itemname

FROM SALES GROUP BY itemname HAVING COUNT(DISTINCT Deptname) = (SELECT DISTINCT COUNT(Deptname) FROM SALES));

Q44)

SELECT Deptname FROM SALES GROUP BY Deptname HAVING COUNT(\*) <= 1;

Q45)

SELECT itemname FROM SALES GROUP BY itemname HAVING COUNT(DISTINCT Deptname) = (SELECT COUNT(DISTINCT Deptname) FROM SALES);

Q46)

SELECT DISTINCT Deptname FROM SALES WHERE Deptname NOT IN (SELECT Deptname FROM SALES WHERE itemname = 'Compass');

Q47)

SELECT D.Deptname, D.Deptfloor, AVG(E.Empsalary) FROM DEPARTMENT D INNER JOIN EMP E ON D.MgrId = E.Empno GROUP BY D.Deptname;

Q48)

SELECT B.Empname FROM EMP E INNER JOIN EMP B ON E.Bossno = B.Empno WHERE E.Empname = 'Nancy';

Q49)

SELECT Empno, Empname, EMP.Deptname, Bossno, Empsalary – Average FROM EMP

INNER JOIN (SELECT Deptname, AVG(Empsalary) AS Average FROM EMP GROUP BY Deptname) A

ON A.Deptname = EMP.Deptname;

Q50)

SELECT Deptname FROM EMP GROUP BY Deptname HAVING COUNT(\*) > 1

AND Deptname IN (SELECT Deptname FROM DEPARTMENT WHERE Deptfloor = 2);

Q51)

SELECT Deptname FROM DEPARTMENT WHERE Deptfloor IN (2, 5);

Q52)

SELECT Empname FROM EMP WHERE Empsalary > (SELECT AVG(Empsalary) FROM EMP WHERE Deptname = 'Books');

Q53)

SELECT Empname FROM EMP WHERE Empno IN (SELECT Bossno FROM EMP GROUP BY Bossno HAVING COUNT(\*) = 1);

Q54)

SELECT E.Empname FROM EMP E INNER JOIN EMP B ON E.Bossno = B.Empno

WHERE B.Empname = 'Todd';

Q55)

SELECT DISTINCT Deptname FROM SALES WHERE Deptname NOT IN (SELECT Deptname

FROM SALES S INNER JOIN ITEM I USING (itemname) WHERE itemcolor = 'Green'

GROUP BY (S.Deptname) HAVING COUNT(\*) = (SELECT COUNT(\*) FROM ITEM WHERE itemcolor = 'Green'));

Q56)

SELECT B.Empname FROM EMP E INNER JOIN EMP B ON E.Bossno = B.Empno WHERE E.Empname = 'Sophile';

Q57)

SELECT E.Empname FROM EMP E INNER JOIN EMP B ON E.Bossno = B.Empno AND E.Empsalary < B.Empsalary / 2;

Q58)

SELECT B.Empname AS Manager, E.Empname AS Employee FROM EMP E INNER JOIN EMP B ON E.Bossno = B.Empno;

Q59)

SELECT Empname FROM EMP ORDER BY Empsalary LIMIT 1;

Q60)

SELECT Empname FROM EMP WHERE Empsalary < (SELECT MIN(Empsalary) FROM EMP WHERE Deptname = 'Marketing');

Q61)

SELECT DISTINCT S.itemname FROM SALES S INNER JOIN ITEM I ON S.itemname = I.itemname AND I.itemcolor = 'Brown';

Q62)

SELECT DISTINCT S.itemname FROM SALES S INNER JOIN ITEM I ON S.itemname = I.itemname AND I.itemcolor = 'Brown' WHERE S.Deptname = 'Books';

Q63)

SELECT Deptname FROM EMP GROUP BY Deptname ORDER BY AVG(Empsalary) DESC

LIMIT 1;

Q64)

SELECT Deptname FROM SALES S INNER JOIN ITEM I ON S.itemname = I.itemname AND I.itemcolor = 'Brown' GROUP BY (Deptname) HAVING COUNT(\*) = (SELECT COUNT(\*) FROM ITEM WHERE itemcolor = 'Brown');

Q65)

SELECT Deptname, AVG(Empsalary) FROM EMP WHERE Deptname IN (SELECT DISTINCT Deptname FROM SALES WHERE itemname = 'Sextant') GROUP BY Deptname;

Q66)

SELECT itemname FROM SALES GROUP BY itemname HAVING COUNT(DISTINCT Deptname) >= 2;

Q67)

SELECT B.Deptname FROM EMP E INNER JOIN EMP B WHERE E.Bossno = B.Empno GROUP BY B.Empno HAVING AVG(E.Empsalary) > 25000;

Q68)

SELECT Deptname FROM SALES WHERE itemname = 'Stetson'

AND Deptname IN (SELECT Deptname FROM EMP GROUP BY Deptname HAVING SUM(Empsalary) > 25000);

Q69)

SELECT itemname, D.Deptname, Deptfloor, Empname FROM SALES S INNER JOIN DEPARTMENT D USING (Deptname) INNER JOIN EMP E ON D.MgrId = E.Empno;

Q70)

SELECT DISTINCT itemname FROM SALES S INNER JOIN DEPARTMENT D USING (Deptname)

WHERE Deptfloor != 2;

OUTPUT









































