Noureldeen Allama

900202115

Database assignment 2

Question (1)

a) *SELECT* DISTINCT Item -- FROM Sales -- ORDER BY Item ASC

b) *SELECT* DISTINCT CustomerName -- FROM Sales -- WHERE Item = "Hammer''

c) *SELECT* Item, CustomerName -- FROM Sales -- WHERE Date = "2020-02-25'' -- ORDER BY Item ASC

d) *SELECT* Item -- FROM Sales -- WHERE CustomerName = "Omar Ahmed" AND Date = "2020-01-21"

e) *SELECT* SUM(Qty * Price) AS TotalSales -- FROM Sales

f) *SELECT* CustomerName, AVG(Qty) AS Avg_Quantity -- FROM Sales -- WHERE Date >= "2020-03-01" AND Date < "2020-04-01"-- GROUP BY CustomerName

g) *SELECT* AVG(Qty * Price) AS Avg_Sales -- FROM Sales -- WHERE Date >= "2020-01-01" AND Date < "2020-02-01"

Question (2)

a)

[PRICE]

```sql
CREATE TABLE PRICE (

    RoomTypeCode VARCHAR(50),

    SeasonCode VARCHAR(50),

    CustomerTypeCode VARCHAR(50),

    PriceValue DECIMAL(10, 2),

    PRIMARY KEY (RoomTypeCode, SeasonCode, CustomerTypeCode),

    FOREIGN KEY (RoomTypeCode) REFERENCES ROOM_TYPE(RoomTypeCode),

    FOREIGN KEY (SeasonCode) REFERENCES SEASON(SeasonCode),

    FOREIGN KEY (CustomerTypeCode) REFERENCES CUSTOMER_TYPE(CustomerTypeCode)

);
```

[MEMBER_STAFF]

```sql
CREATE TABLE MEMBER_STAFF (

    Gender CHAR(1),

    ShiftCode VARCHAR(50),

    StaffNumber VARCHAR(50) PRIMARY KEY,

    Name VARCHAR(100),

    JobCode VARCHAR(50),

    FOREIGN KEY (ShiftCode) REFERENCES SHIFT(ShiftCode)

    FOREIGN KEY (JobCode) REFERENCES JOB(JobCode),

);
```

[RESERVATION]

```sql
CREATE TABLE RESERVATION (

    ReferenceNo VARCHAR(30) PRIMARY KEY,

    SectCode VARCHAR(30),
```

RoomNo INTEGER,

CheckInDD INTEGER,

CheckInMM INTEGER,

CheckInYYYY INTEGER,

NumberOfNights INTEGER,

ActualPrice DECIMAL(10, 2),

FOREIGN KEY (SectCode, RoomNo) REFERENCES ROOM(SectCode, RoomNo)

);

[RESERVATION_CUSTOMER]

CREATE TABLE RESERVATION_CUSTOMER (

ReferenceNo VARCHAR(23),

CustFirstName VARCHAR(50),

CustLastName VARCHAR(50),

Status CHAR(1),

PRIMARY KEY (ReferenceNo, CustFirstName, CustLastName),

FOREIGN KEY (ReferenceNo) REFERENCES RESERVATION(ReferenceNo)

);

b)

SELECT MS.StaffNumber, MS.Name, J.JobDescription -- FROM MEMBER_STAFF MS -- JOIN JOB J ON MS.JobCode = J.JobCode -- WHERE MS.StaffNumber NOT IN (SELECT DISTINCT StaffNumber FROM SHIFT)

c)

SELECT C.CustFirstName, C.CustLastName, C.Nationality -- FROM CUSTOMER C -- JOIN RESERVATION_CUSTOMER RC ON C.CustFirstName = RC.CustFirstName AND C.CustLastName = RC.CustLastName -- WHERE (RC.CheckInYYYY = 2019 OR RC.CheckInYYYY = 2020) -- GROUP BY C.CustFirstName, C.CustLastName, C.Nationality -- HAVING COUNT(DISTINCT RC.ReferenceNo) > 5

d)

SELECT S.ShiftCode, MS.Name AS SupervisorName, COUNT(*) AS TotalStaff -- FROM SHIFT S -- JOIN MEMBER_STAFF MS ON S.SuperStaffNumber = MS.StaffNumber -- GROUP BY S.ShiftCode, MS.Name -- HAVING COUNT(*) < 10

e)

CREATE SectionRoomStats AS -- *SELECT* R.SectCode, RT.RoomTypeCode, MONTH(R.CheckInYYyYY-MM-DD) AS Month, YEAR(R.CheckInYYYY-MM-DD) AS Year, SUM(R.NumberOfNights) AS TotalUnitsSold, SUM(R.ActualPrice) AS TotalIncome -- FROM RESERVATION R -- JOIN ROOM_TYPE RT ON R.RoomTypeCode = RT.RoomTypeCode -- GROUP BY R.SectCode, RT.RoomTypeCode, MONTH(R.CheckInYYYY-MM-DD), YEAR(R.CheckInYYYY-MM-DD)

f)

SELECT TotalUnitsSold, TotalIncome -- FROM SectionRoomStats -- WHERE SectCode = "S01" AND RoomTypeCode = "D" AND Month = 7 AND Year = 2020

Question (3)

a)

SELECT SUM(MJ.Quantity) AS TotalProduction -- FROM ManufacturingJob MJ -- JOIN ManufacturingLine ML ON MJ.CountryName = ML.CountryName AND MJ.CityName = ML.CityName AND MJ.LineNumber = ML.LineNumber -- JOIN Product P ON ML.ProductCode = P.ProductCode -- WHERE P.ProductType = 'Cosmetics' AND (MJ.Year = 2019 OR MJ.Year = 2020)

b)

SELECT P.ProductCide, P.ProductType -- FROM Product P -- LEFT JOIN ManufacturingLine ML ON P.ProductCode = ML.ProductCode -- WHERE ML.ProductCode IS NULL

c)

SELECT ML.LineNumber, MJ.Year, SUM(MJ.Quantity) AS TotalProduction -- FROM ManufacturingJob MJ -- JOIN ManufacturingLine ML ON MJ.CountryName = ML.CountryName AND MJ.CityName = ML.CityName AND MJ.LineNumber = ML.LineNumber -- WHERE MJ.CountryName = "Egypt" AND MJ.CityName = "Cairo" -- GROUP BY ML.LineNumber, MJ.Year -- HAVING SUM(MJ.Quantity) > 20000

d)

SELECT P.ProductCode, P.ProductType -- FROM Product P -- JOIN ManufacturingLine ML ON P.ProductCode = ML.ProductCode -- GROUP BY P.ProductCode, P.ProductType -- HAVING COUNT(*) > 3

e)

SELECT S.SName AS SupplierName, S.CityName, S.CountryName, S.Email, SUM(SU.Quantity * IT.BasePrice) AS TotalCost -- FROM Supplier S -- JOIN Supply SU ON S.SNO = SU.SNO -- JOIN Item I ON SU.PartNumber = I.PartNumber -- JOIN ItemType IT ON I.ItemType = IT.ItemType -- WHERE I.ItemType = "SpareParts" -- GROUP BY S.SNO, S.SName, S.CityName, S.CountryName, S.Email-- HAVING SUM(SU.Quantity) > 10