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CIS310-01

Assignment 7

3-16-11

--1 List the products with a list price greater than the average list price of all products.

USE CIS310A7

SELECT ITEMID, DESCRIPTION, LISTPRICE

FROM MERCHANDISE

WHERE LISTPRICE > (SELECT SUM(LISTPRICE)/COUNT(LISTPRICE) FROM MERCHANDISE)

--2 On average, which sold in less time: male cats or female cats? The difference in days between order date and sale date determines what gender sold in less time. List the average time it takes to sell each gender.

USE CIS310A7

SELECT A.GENDER, AVG(DATEDIFF(DD, AO.ORDERDATE, S.SALEDATE)) AS [DELAY IN DAYS]

FROM ANIMALORDER AO INNER JOIN ANIMALORDERITEM AOI ON AO.ORDERID = AOI.ORDERID

INNER JOIN ANIMAL A ON AOI.ANIMALID = A.ANIMALID

INNER JOIN SALEANIMAL SA ON A.ANIMALID = SA.ANIMALID

INNER JOIN SALE S ON SA.SALEID = S.SALEID

WHERE A.CATEGORY = 'CAT'

GROUP BY A.GENDER

--3 List the cats that took longer than average cats to sell.

USE CIS310A7

SELECT A.ANIMALID, A.NAME, DATEDIFF(DD, AO.ORDERDATE, S.SALEDATE) AS [DELAY]

FROM ANIMALORDER AO INNER JOIN ANIMALORDERITEM AOI ON AO.ORDERID = AOI.ORDERID

INNER JOIN ANIMAL A ON AOI.ANIMALID = A.ANIMALID

INNER JOIN SALEANIMAL SA ON A.ANIMALID = SA.ANIMALID

INNER JOIN SALE S ON SA.SALEID = S.SALEID

WHERE A.CATEGORY = 'CAT' AND DATEDIFF(DD, AO.ORDERDATE, S.SALEDATE) >

(

SELECT AVG(DATEDIFF(DD, AO.ORDERDATE, S.SALEDATE))

FROM ANIMALORDER AO INNER JOIN ANIMALORDERITEM AOI ON AO.ORDERID = AOI.ORDERID

INNER JOIN ANIMAL A ON AOI.ANIMALID = A.ANIMALID

INNER JOIN SALEANIMAL SA ON A.ANIMALID = SA.ANIMALID

INNER JOIN SALE S ON SA.SALEID = S.SALEID

WHERE A.CATEGORY = 'CAT'

)

--4 Which merchandise items have an average sale price more than 50 percent higher than their average purchase cost? May use views.

USE CIS31032

CREATE VIEW [MERCHANDISE PRODUCTS] AS

SELECT M.ITEMID, M.DESCRIPTION, ROUND(AVG(OI.COST), 2) AS [AVGOFCOST], ROUND(AVG(SI.SALEPRICE), 2) AS [AVGOFSALEPRICE]

FROM CIS310A7..MERCHANDISE M INNER JOIN CIS310A7..ORDERITEM OI ON M.ITEMID = OI.ITEMID

INNER JOIN CIS310A7..SALEITEM SI ON M.ITEMID = SI.ITEMID

GROUP BY M.ITEMID, M.DESCRIPTION

SELECT \*

FROM [MERCHANDISE PRODUCTS]

WHERE AVGOFSALEPRICE > AVGOFCOST\*1.5

--5 List the employees and their total merchandise sales expressed as a percentage of total merchandise sales for all employees.

USE CIS310A7

SELECT E.EMPLOYEEID, E.LASTNAME, SUM(SI.SALEPRICE) AS [TOTAL SALES],

((SUM(SI.SALEPRICE) / (SELECT SUM(SALEPRICE) FROM SALEITEM))\* 100) AS [PCTSALE]

FROM EMPLOYEE E INNER JOIN SALE S ON E.EMPLOYEEID = S.EMPLOYEEID

INNER JOIN SALEITEM SI ON S.SALEID = SI.SALEID

GROUP BY E.EMPLOYEEID, E.LASTNAME

--6 On average, which supplier charges the highest shipping cost as a percent of the merchandise order total? May use views.

USE CIS31032

CREATE VIEW [SUPPLIERS WITH HIGH SHIPPING COSTS] AS

SELECT S.SUPPLIERID, S.NAME, MO.PONUMBER, ((MO.SHIPPINGCOST/SUM(OI.COST))\*100) AS [AVGSHIPCOST]

FROM CIS310A7..SUPPLIER S INNER JOIN CIS310A7..MERCHANDISEORDER MO ON S.SUPPLIERID = MO.SUPPLIERID

INNER JOIN CIS310A7..ORDERITEM OI ON MO.PONUMBER = OI.PONUMBER

GROUP BY S.SUPPLIERID, S.NAME, MO.PONUMBER, MO.SHIPPINGCOST

CREATE VIEW [SUPPLIER WITH HIGHEST COST] AS

SELECT SUPPLIERID, NAME, AVG(AVGSHIPCOST) AS [PCTSHIPCOST]

FROM [SUPPLIERS WITH HIGH SHIPPING COSTS]

GROUP BY SUPPLIERID, NAME

SELECT \*

FROM [SUPPLIER WITH HIGHEST COST]

WHERE PCTSHIPCOST = (SELECT MAX(PCTSHIPCOST) FROM [SUPPLIER WITH HIGHEST COST])

GROUP BY SUPPLIERID, NAME, PCTSHIPCOST

--7 Which customer has given us the most total money for animals and merchandise? May use views.

USE CIS31032

CREATE VIEW [ANIMALSPURCHASEDTOTAL] AS

SELECT C.CUSTOMERID, C.LASTNAME, C.FIRSTNAME, SUM(SA.SALEPRICE) AS [ANIMALTOTAL]

FROM CIS310A7..CUSTOMER C INNER JOIN CIS310A7..SALE S ON S.CUSTOMERID = C.CUSTOMERID

INNER JOIN CIS310A7..SALEANIMAL SA ON S.SALEID = SA.SALEID

GROUP BY C.CUSTOMERID,C.LASTNAME,C.FIRSTNAME

CREATE VIEW [MERCHPURCHASEDTOTAL] AS

SELECT C.CUSTOMERID, C.LASTNAME, C.FIRSTNAME, SUM(SI.SALEPRICE) AS [MERCHANDISETOTAL]

FROM CIS310A7..CUSTOMER C INNER JOIN CIS310A7..SALE S ON S.CUSTOMERID = C.CUSTOMERID

INNER JOIN CIS310A7..SALEITEM SI ON S.SALEID = SI.SALEID

GROUP BY C.CUSTOMERID,C.LASTNAME,C.FIRSTNAME

CREATE VIEW [COMBINEDSALESTOTAL] AS

SELECT C.CUSTOMERID, C.LASTNAME, C.FIRSTNAME, MPT.MERCHANDISETOTAL AS [MERCHTOTAL], APT.ANIMALTOTAL, SUM(MPT.MERCHANDISETOTAL + APT.ANIMALTOTAL) AS [GRANDTOTAL]

FROM CIS310A7..CUSTOMER C INNER JOIN CIS31032..[ANIMALSPURCHASEDTOTAL] APT ON C.CUSTOMERID = APT.CUSTOMERID

INNER JOIN CIS31032..[MERCHPURCHASEDTOTAL] MPT ON APT.CUSTOMERID = MPT.CUSTOMERID

GROUP BY C.CUSTOMERID, C.LASTNAME, C.FIRSTNAME, MPT.MERCHANDISETOTAL, APT.ANIMALTOTAL

SELECT \*

FROM [COMBINEDSALESTOTAL]

WHERE GRANDTOTAL = (SELECT MAX(GRANDTOTAL) FROM [COMBINEDSALESTOTAL])

--8 Which customers who bought more than $100 in merchandise in May also spent more than $50 on merchandise in October?

USE CIS310A7

SELECT C.CUSTOMERID, C.LASTNAME, C.FIRSTNAME, SUM(SI.SALEPRICE) AS [MAY TOTAL]

FROM CUSTOMER C INNER JOIN SALE S ON C.CUSTOMERID = S.CUSTOMERID

INNER JOIN SALEITEM SI ON S.SALEID = SI.SALEID

WHERE MONTH(S.SALEDATE) = 5 AND

C.CUSTOMERID IN

(

SELECT C.CUSTOMERID

FROM CUSTOMER C INNER JOIN SALE S ON C.CUSTOMERID = S.CUSTOMERID

INNER JOIN SALEITEM SI ON S.SALEID = SI.SALEID

WHERE MONTH(S.SALEDATE) = 10

GROUP BY C.CUSTOMERID

HAVING SUM(SI.SALEPRICE) > 50

)

GROUP BY C.CUSTOMERID, C.LASTNAME, C.FIRSTNAME

HAVING SUM(SI.SALEPRICE) > 100

--9 List the customers who bought dogs in the first quarter and also bought dog food in the fourth quarter.

USE CIS310A7

SELECT C.CUSTOMERID, C.LASTNAME, C.FIRSTNAME, S.SALEDATE, A.CATEGORY

FROM ANIMAL A INNER JOIN SALEANIMAL SA ON A.ANIMALID = SA.ANIMALID

INNER JOIN SALE S ON SA.SALEID = S.SALEID

INNER JOIN CUSTOMER C ON S.CUSTOMERID = C.CUSTOMERID

INNER JOIN SALEITEM SI ON S.SALEID = SI.SALEID

INNER JOIN MERCHANDISE M ON SI.ITEMID = M.ITEMID

WHERE A.CATEGORY = 'DOG' AND

MONTH(S.SALEDATE) BETWEEN 1 AND 3

AND C.CUSTOMERID IN

(

SELECT C.CUSTOMERID

FROM ANIMAL A INNER JOIN SALEANIMAL SA ON A.ANIMALID = SA.ANIMALID

INNER JOIN SALE S ON SA.SALEID = S.SALEID

INNER JOIN CUSTOMER C ON S.CUSTOMERID = C.CUSTOMERID

INNER JOIN SALEITEM SI ON S.SALEID = SI.SALEID

INNER JOIN MERCHANDISE M ON SI.ITEMID = M.ITEMID

WHERE M.DESCRIPTION LIKE 'DOG FOOD%' AND MONTH(S.SALEDATE) BETWEEN 10 AND 12

)

GROUP BY C.CUSTOMERID, C.LASTNAME, C.FIRSTNAME, S.SALEDATE, A.CATEGORY

ORDER BY S.SALEDATE

--10 COULDN'T FIGURE OUT A WAY TO INCLUDE ADDITIONAL YEARS WITHOUT INCLUDING ALL OF JULY. What was the net change in quantity on hand for premium canned dog food between January 1 and July 1? May use views.

USE CIS31032

CREATE VIEW [QUANTITY PURCHASED] AS

SELECT SUM(OI.QUANTITY) AS [QUANTITYPURCHASED], M.DESCRIPTION, M.ITEMID

FROM CIS310A7..MERCHANDISEORDER MO INNER JOIN CIS310A7..ORDERITEM OI ON MO.PONUMBER = OI.PONUMBER

INNER JOIN CIS310A7..MERCHANDISE M ON OI.ITEMID = M.ITEMID

WHERE MO.ORDERDATE BETWEEN '1/1/2004' AND '7/1/2004'

AND M.DESCRIPTION LIKE 'DOG FOOD%PREMIUM'

GROUP BY M.DESCRIPTION, M.ITEMID

CREATE VIEW [QUANTITY SOLD] AS

SELECT SUM(SI.QUANTITY) AS [QUANTITYSOLD], M.DESCRIPTION, M.ITEMID

FROM CIS310A7..MERCHANDISE M INNER JOIN CIS310A7..SALEITEM SI ON M.ITEMID = SI.ITEMID

INNER JOIN CIS310A7..SALE S ON SI.SALEID = S.SALEID

WHERE S.SALEDATE BETWEEN '1/1/2004' AND '7/1/2004'

AND M.DESCRIPTION LIKE 'DOG FOOD%PREMIUM'

GROUP BY M.DESCRIPTION, M.ITEMID

SELECT QP.DESCRIPTION, QP.ITEMID, QP.QUANTITYPURCHASED, QS.QUANTITYSOLD, (SUM(QP.QUANTITYPURCHASED) - SUM(QS.QUANTITYSOLD)) AS [NET INCREASE]

FROM [QUANTITY PURCHASED] QP FULL OUTER JOIN [QUANTITY SOLD] QS ON QP.DESCRIPTION = QS.DESCRIPTION

GROUP BY QP.DESCRIPTION, QP.ITEMID, QP.QUANTITYPURCHASED, QS.QUANTITYSOLD

--11 Which merchandise items with a list price of more than $50 hand no sales July?

USE CIS310A7

SELECT M.ITEMID, M.DESCRIPTION, M.LISTPRICE

FROM MERCHANDISE M INNER JOIN SALEITEM SI ON M.ITEMID = SI.ITEMID

INNER JOIN SALE S ON SI.SALEID = S.SALEID

WHERE M.LISTPRICE > 50 AND

MONTH(S.SALEDATE) <> 7

GROUP BY M.ITEMID, M.DESCRIPTION, M.LISTPRICE

--12 Which merchandise items with more than 100 units on hand have not been ordered in 2004? Use an outer join to answer the question.

USE CIS310A7

SELECT M.ITEMID AS [MERCHANDISE.ITEMID], M.DESCRIPTION, M.QUANTITYONHAND, O.ITEMID AS [ORDERITEM.ITEMID]

FROM MERCHANDISE M FULL OUTER JOIN ORDERITEM O ON M.ITEMID = O.ITEMID

FULL OUTER JOIN MERCHANDISEORDER MO ON O.PONUMBER = MO.PONUMBER

WHERE M.QUANTITYONHAND > 100 AND

(YEAR(MO.ORDERDATE) <> 2004 OR YEAR(MO.ORDERDATE) IS NULL)

--13 Which merchandise items with more than 100 units on hand have not been ordered in 2004? Use a subquery to answer the question.

USE CIS310A7

SELECT M.ITEMID, M.DESCRIPTION, M.QUANTITYONHAND

FROM MERCHANDISE M

WHERE ITEMID IN

(

SELECT O.ITEMID

FROM ORDERITEM O INNER JOIN MERCHANDISEORDER MO ON O.PONUMBER = MO.PONUMBER

WHERE YEAR(MO.ORDERDATE) <> 2004 AND

M.QuantityOnHand > 100

)

--14 Which cat products with a quantity on hand greater than 500 have not been sold in the month of July?

USE CIS310A7

SELECT M.ITEMID, M.DESCRIPTION, M.QUANTITYONHAND

FROM MERCHANDISE M INNER JOIN SALEITEM SI ON M.ITEMID = SI.ITEMID

INNER JOIN SALE S ON SI.SALEID = S.SALEID

WHERE M.QUANTITYONHAND > 500 AND

MONTH(S.SALEDATE) <> 7

GROUP BY M.ITEMID, M.DESCRIPTION, M.QUANTITYONHAND

--15 Which dog breeds have never been sold at the pet store? Use an outer join to answer the question. May use views.

USE CIS31032

CREATE VIEW [SOLDDOGBREEDS] AS

SELECT A.BREED

FROM CIS310A7..ANIMAL A RIGHT JOIN CIS310A7..SALEANIMAL SA ON A.ANIMALID = SA.ANIMALID

WHERE A.CATEGORY = 'DOG'

GROUP BY A.BREED

SELECT B.BREED

FROM CIS310A7..BREED B LEFT JOIN [SOLDDOGBREEDS] SDB ON B.BREED = SDB.BREED

WHERE B.CATEGORY = 'DOG'

AND B.BREED NOT IN

(

SELECT \*

FROM [SOLDDOGBREEDS]

)

--16 Which dog breeds have never been sold at the pet store? Use a subquery to answer the question.

USE CIS310A7

SELECT BREED

FROM BREED

WHERE CATEGORY = 'DOG' AND

BREED NOT IN

(

SELECT A.BREED

FROM ANIMAL A INNER JOIN SALEANIMAL SA ON A.ANIMALID = SA.ANIMALID

WHERE CATEGORY = 'DOG'

GROUP BY A.BREED

)

--17 List the employees who report to Gibson.

USE CIS310A7

SELECT MANAGER.LASTNAME AS [MANAGERLASTNAME], EE.EMPLOYEEID, EE.LASTNAME AS [EMPLOYEELASTNAME], EE.FIRSTNAME, EE.TITLE

FROM EMPLOYEE EE INNER JOIN EMPLOYEE MANAGER ON EE.MANAGERID = MANAGER.EMPLOYEEID

WHERE MANAGER.LASTNAME = 'GIBSON'

--18 Save a query to answer Exercise 7: total amount of money spent by each customer. Create the table shown to categorize customers based on sales. Write a query that lists each customer from the first query and displays the proper label. You must turn in ALL the code needed to finish this exercise. You may not use any GUI tool. Code only. May use views.

-- Category Low High

-- Weak 0 200

-- Good 200 800

-- Best 800 10000

USE CIS31032

CREATE TABLE SALESCATEGORIES

(

CATEGORY VARCHAR(10),

LOW INT NOT NULL,

HIGH INT NOT NULL

)

INSERT INTO SALESCATEGORIES (CATEGORY, LOW, HIGH)

VALUES ('Weak', 0, 200)

INSERT INTO SALESCATEGORIES (CATEGORY, LOW, HIGH)

VALUES ('Good', 200, 800)

INSERT INTO SALESCATEGORIES (CATEGORY, LOW, HIGH)

VALUES ('Best', 800, 10000)

CREATE VIEW [COMBINEDSALESTOTALCOPY] AS

SELECT CUSTOMERID, LASTNAME, FIRSTNAME, GRANDTOTAL

FROM COMBINEDSALESTOTAL

SELECT CSTC.CUSTOMERID, CSTC.LASTNAME, CSTC.FIRSTNAME, CSTC.GRANDTOTAL, SC.CATEGORY

FROM COMBINEDSALESTOTALCOPY CSTC INNER JOIN SALESCATEGORIES SC ON CSTC.GRANDTOTAL >= SC.LOW AND CSTC.GRANDTOTAL < SC.HIGH

GROUP BY CSTC.CUSTOMERID, CSTC.LASTNAME, CSTC.FIRSTNAME, CSTC.GRANDTOTAL, SC.CATEGORY

ORDER BY SC.CATEGORY DESC

--18A This is an alternative way of doing #18

CREATE VIEW [CUSTOMERWEAKTOTALS] AS

SELECT CST.CUSTOMERID, CST.LASTNAME, CST.FIRSTNAME, CST.GRANDTOTAL, SC.CATEGORY

FROM [COMBINEDSALESTOTAL] CST INNER JOIN SALESCATEGORIES SC ON CST.GRANDTOTAL >= 0 AND CST.GRANDTOTAL < 200

WHERE SC.CATEGORY = 'WEAK'

CREATE VIEW [CUSTOMERGOODTOTALS] AS

SELECT CST.CUSTOMERID, CST.LASTNAME, CST.FIRSTNAME, CST.GRANDTOTAL, SC.CATEGORY

FROM [COMBINEDSALESTOTAL] CST INNER JOIN SALESCATEGORIES SC ON CST.GRANDTOTAL >= 200 AND CST.GRANDTOTAL < 800

WHERE SC.CATEGORY = 'GOOD'

CREATE VIEW [CUSTOMERBESTTOTALS] AS

SELECT CST.CUSTOMERID, CST.LASTNAME, CST.FIRSTNAME, CST.GRANDTOTAL, SC.CATEGORY

FROM [COMBINEDSALESTOTAL] CST INNER JOIN SALESCATEGORIES SC ON CST.GRANDTOTAL >= 800

WHERE SC.CATEGORY = 'BEST'

SELECT \* FROM CUSTOMERWEAKTOTALS

UNION

SELECT \* FROM CUSTOMERGOODTOTALS

UNION

SELECT \* FROM CUSTOMERBESTTOTALS

ORDER BY CATEGORY DESC

--19 List all suppliers (animals and merchandise) who sold us items in June. Identify whether they sold use animals or merchandise.

USE CIS310A7

SELECT S.SUPPLIERID, S.NAME, AO.ORDERID, [PURCHASED] = 'ANIMAL'

FROM SUPPLIER S INNER JOIN ANIMALORDER AO ON S.SUPPLIERID = AO.SUPPLIERID

WHERE MONTH(AO.ORDERDATE) = 6

UNION

SELECT S.SUPPLIERID, S.NAME, MO.PONUMBER, [PURCHASED] = 'MERCH'

FROM SUPPLIER S INNER JOIN MERCHANDISEORDER MO ON S.SUPPLIERID = MO.SUPPLIERID

WHERE MONTH(MO.ORDERDATE) = 6

--19A List all suppliers (animals and merchandise) who sold us items in June. Identify whether they sold use animals or merchandise.

USE CIS310A7

SELECT S.SUPPLIERID, S.NAME, AO.ORDERID, 'ANIMAL' AS [PURCHASED]

FROM SUPPLIER S INNER JOIN ANIMALORDER AO ON S.SUPPLIERID = AO.SUPPLIERID

WHERE MONTH(AO.ORDERDATE) = 6

UNION

SELECT S.SUPPLIERID, S.NAME, MO.PONUMBER, 'MERCH' AS [PURCHASED]

FROM SUPPLIER S INNER JOIN MERCHANDISEORDER MO ON S.SUPPLIERID = MO.SUPPLIERID

WHERE MONTH(MO.ORDERDATE) = 6

--20 List the states for which our customers have spent more than seven times as much money on animals than on merchandise (in total).

USE CIS31032

SELECT CY.STATE, SUM(CST.MERCHTOTAL) AS [ANIMALSALES], SUM(CST.ANIMALTOTAL) AS [MERCHSALES]

FROM COMBINEDSALESTOTAL CST INNER JOIN CIS310A7..CUSTOMER C ON CST.CUSTOMERID = C.CUSTOMERID

INNER JOIN CIS310A7..CITY CY ON C.CITYID = CY.CITYID

GROUP BY CY.STATE

HAVING SUM(CST.ANIMALTOTAL) > (7\*SUM(CST.MERCHTOTAL))

--21 Write a query to create the table shown in Exercise 18.

SELECT \*

FROM SALESCATEGORIES

--22 Write a query to insert the first row of data for the table in Exercise 18.

INSERT INTO SALESCATEGORIES (CATEGORY, LOW, HIGH)

VALUES ('Weak', 0, 200)

--23 Write a query to change the High value to 400 in the first row of the table in Exercise 18.

USE CIS31032

UPDATE SALESCATEGORIES

SET HIGH = 400

WHERE CATEGORY = 'WEAK'

--24 Create a query to delete the first row of the table in Exercise 18.

USE CIS31032

DELETE FROM SALESCATEGORIES

WHERE CATEGORY = 'WEAK'

--25 Create a copy of the Employee table structure. Use a delete query to remove all data from the copy. Write a query to copy from the original employee table into the new one.

USE CIS31032

SELECT \*

INTO COPYOFEMPLOYEE

FROM CIS310A7..EMPLOYEE

DELETE FROM COPYOFEMPLOYEE

SET IDENTITY\_INSERT COPYOFEMPLOYEE ON

INSERT INTO COPYOFEMPLOYEE (EMPLOYEEID, LASTNAME, FIRSTNAME, PHONE, ADDRESS, ZIPCODE, CITYID, TAXPAYERID, DATEHIRED, DATERELEASED, MANAGERID, EMPLOYEELEVEL, TITLE)

SELECT EMPLOYEEID, LASTNAME, FIRSTNAME, PHONE, ADDRESS, ZIPCODE, CITYID, TAXPAYERID, DATEHIRED, DATERELEASED, MANAGERID, EMPLOYEELEVEL, TITLE

FROM CIS310A7..EMPLOYEE