

CS443 – A2

No duplicate rows are allowed

Write the queries necessary to obtain the required information. Make sure all columns you return have descriptive column headings. You must show the result of the query. For example, if the query is:

⇒ Show the office id, the city, and the region

⇒ Your query should be:

select office, city, region

from offices;

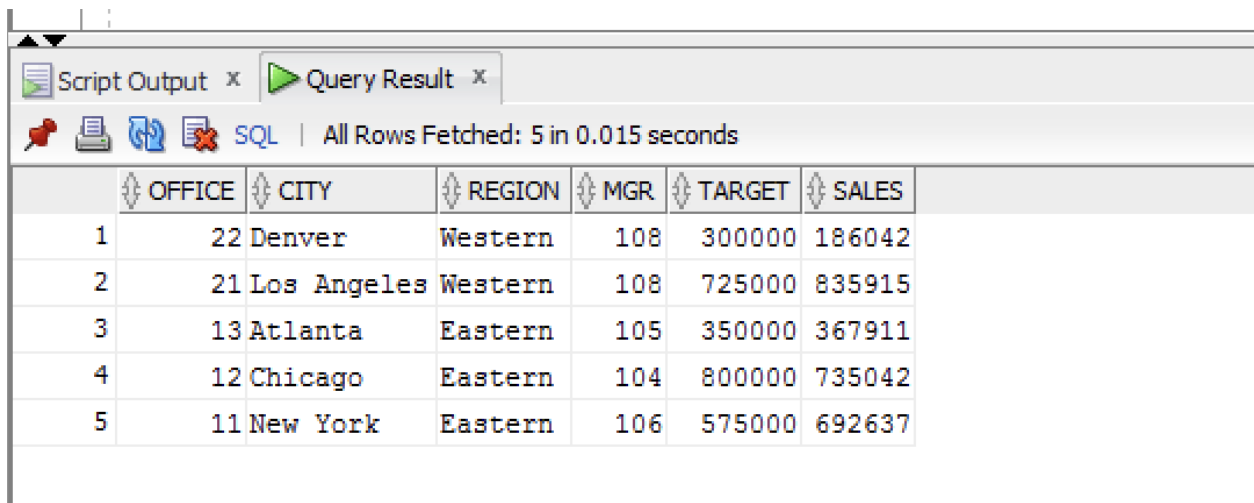
⇒ and then you need to show the following on the screen: (snapshot of your result)

OFFICE	CITY	REGION
22	Denver	Western
11	New York	Eastern
12	Chicago	Eastern
13	Atlanta	Eastern
21	Los Angeles	Western

The following are the questions for A2.

- 1) Write a select statement to list all the columns from the Offices table. 'Select *' is not allowed. Return the list in DESC Office order.

Query: SELECT Office, City, Region, Mgr, Target, Sales
FROM Offices
ORDER BY Office DESC;



	OFFICE	CITY	REGION	MGR	TARGET	SALES
1	22	Denver	Western	108	300000	186042
2	21	Los Angeles	Western	108	725000	835915
3	13	Atlanta	Eastern	105	350000	367911
4	12	Chicago	Eastern	104	800000	735042
5	11	New York	Eastern	106	575000	692637

- 2) List the product id, mfr id, Name (its description), and dollar value of quantity on hand (price * quantity) of the products that their dollar value is greater than 20000. Return the list in descending order by their dollar value.

Query: SELECT Product_ID, Mfr_ID, description, Price, Qty_On_Hand, Price * qty_on_hand AS DollarValue
FROM Products WHERE Price * Qty_On_Hand > 20000 ORDER BY DollarValue DESC;

Script Output x Query Result x				
Task completed in 0.087 seconds				
PRODU MFR DESCRIPTION	PRICE	QTY_ON_HAND	DOLLARVALUE	
4100Z ACI WIDGET INSTALLER	2500	28	70000	
4100Z ACI WIDGET INSTALLER	2500	28	70000	
4100Y ACI WIDGET REMOVER	2750	25	68750	
4100Y ACI WIDGET REMOVER	2750	25	68750	
2A44L REI LEFT HINGE	4500	12	54000	
2A44R REI RIGHT HINGE	4500	12	54000	
2A44L REI LEFT HINGE	4500	12	54000	
2A44R REI RIGHT HINGE	4500	12	54000	
773C IMM 300-LB BRACE	975	28	27300	
773C IMM 300-LB BRACE	975	28	27300	
XK48 QSA REDUCER	134	203	27202	
PRODU MFR DESCRIPTION	PRICE	QTY_ON_HAND	DOLLARVALUE	
XK48 QSA REDUCER	134	203	27202	
41003 ACI SIZE 3 WIDGET	107	207	22149	
41003 ACI SIZE 3 WIDGET	107	207	22149	

- 3) List the Order Number, Order Date, Customer Number and Sales Rep Number for orders for part '779C' or '773C'. (Use a compound search condition - OR.)

Query: S

ELECT Order_Num, Order_Date, cust, rep, product
FROM Orders WHERE (Product = '779C' OR Product = '773C');

Script Output x Query Result x				
Task completed in 0.093 seconds				
ORDER_NUM	ORDER_DAT	CUST	REP	PRODU
113007	08-JAN-23	2112	108	773C
113048	10-FEB-21	2120	102	779C
113003	25-JAN-22	2108	109	779C

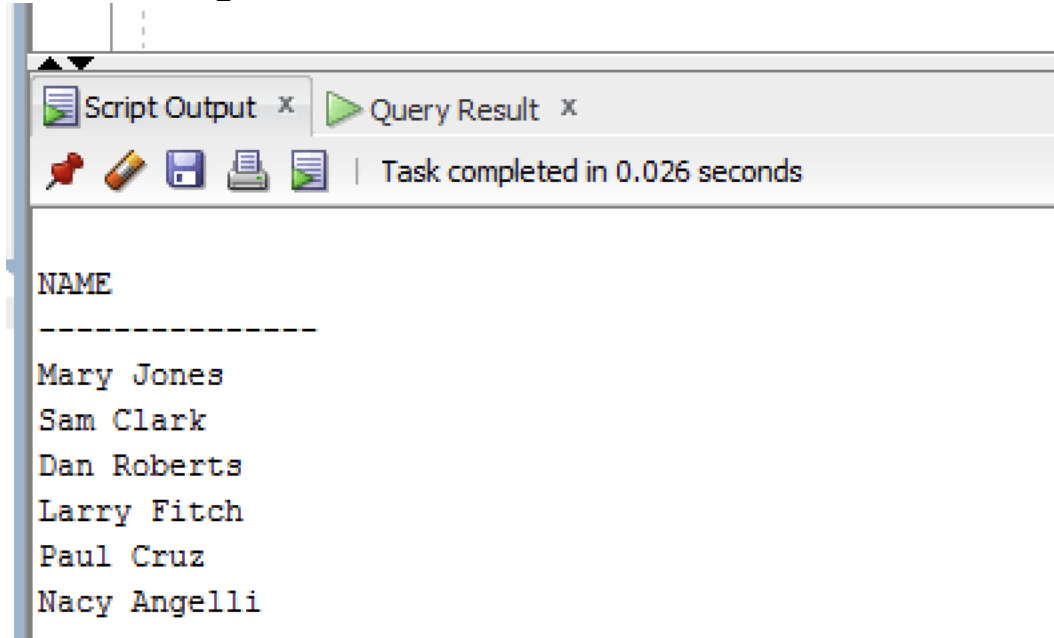
- 4) List the Name and Age for all Sales Reps in the following offices: 11; 13. (Use the set membership test - IN.)

Query: SELECT name, age
FROM SALESREPS
WHERE rep_office IN (11, 13);

Script Output x Query Result x	
Task completed in 0.031 seconds	
NAME	AGE
Bill Adams	37
Mary Jones	31
Sam Clark	52

- 5) List the names of all Sales Reps who have the letter 'a' (this is lower case a) as the second character of their name.

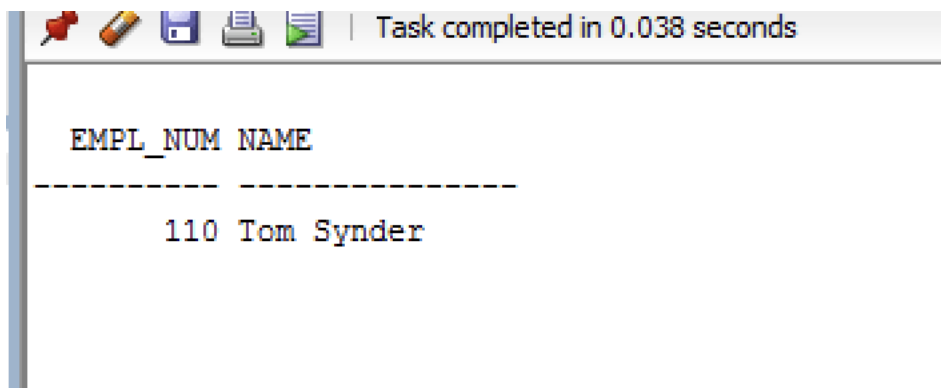
```
SELECT name
FROM Salesreps
WHERE name LIKE '_a%';
```



NAME
Mary Jones
Sam Clark
Dan Roberts
Larry Fitch
Paul Cruz
Nancy Angelli

- 6) Return the Sales Rep ID and Name of any Sales Rep not assigned to an office yet.

```
SELECT Empl_Num , name
FROM SalesReps
WHERE Rep_office IS NULL;
```



EMPL_NUM	NAME
110	Tom Synder

- 7) Show all the sales rep names with last name "Smith" or "Jones".

```
SELECT name
FROM SalesReps
WHERE name LIKE '% Smith' OR NAME LIKE '% Jones';
```

NAME
Mary Jones
Sue Smith
Bob Smith

- 8) List different titles in the sales reps table. Only list each title once and unknown titles should be ignored. Duplicate rows are not allowed.

```
SELECT DISTINCT title
FROM Salesreps
WHERE title IS NOT NULL;
```

Title
Sales Rep
Sales Mgr
VP Sales

- 9) List the description of the products which are more than 6 character and less than 10 character long. No duplicate row is allowed. You can use the built-in function `length()` to do this. For example, `length(name)` returns the number of characters for attribute called "name".

```
SELECT DISTINCT description
FROM Products
WHERE LENGTH(description) > 6 AND LENGTH(description) < 10;
```

DESCRIPTION
REDUCER
HINGE PIN
BRACE PIN
HOUSING
RETAINER

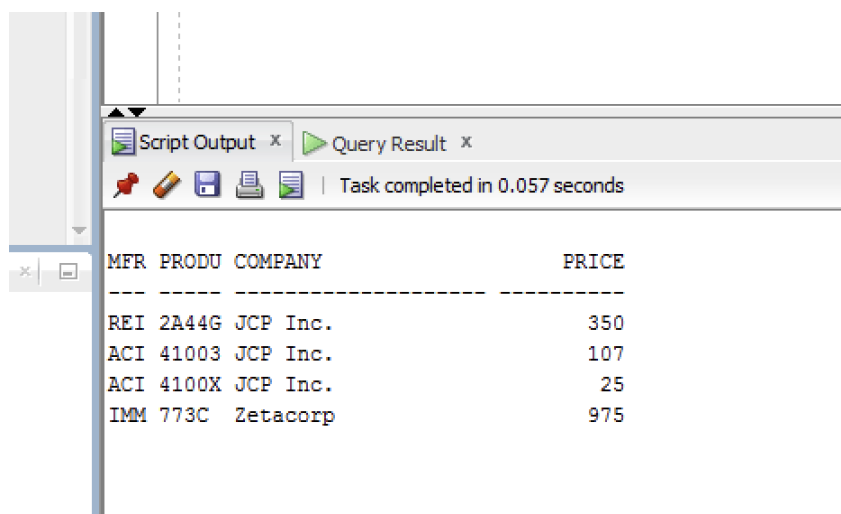
- 10) For all orders Amount less than \$700, list the order num with the name of the rep who placed the order and the name of the customer who made the order and the name of the rep for that customer

```
SELECT Orders.order_num,
       SalesReps1.name AS RepName,
       Customers.company AS CustomerName,
       SalesReps2.name AS CustomerRepName
FROM Orders, Salesreps SalesReps1, Customers, Salesreps SalesReps2
WHERE Orders.rep = SalesReps1.empl_num
AND Orders.cust = Customers.cust_num
AND Customers.cust_rep = SalesReps2.empl_num
AND Orders.amount < 700;
```

ORDER_NUM	REPNAME	CUSTOMERNAME	CUSTOMERREPNAME
113055	Dan Roberts	Holm and Landis	Mary Jones
113034	Tom Synder	Ace International	Tom Synder
113013	Larry Fitch	Midwest Systems	Larry Fitch
113057	Paul Cruz	JCP Inc.	Paul Cruz
112997	Nacy Angelli	Peter Brothers	Nacy Angelli

- 11) List the Mfr Id, the Product Id, Company and PRICE of all products bought by customers where customer number is one of (2111,2112,2105,2119) and where the amount of the order < \$10,000. Order the results by ascending Company. Duplicate row are not allowed.

```
SELECT DISTINCT Products.mfr_id, Products.product_id, Customers.company, Products.price
FROM Orders, Products, Customers
WHERE Orders.product = Products.product_id
AND Orders.mfr = Products.mfr_id
AND Orders.cust = Customers.cust_num
AND Orders.cust IN (2111, 2112, 2105, 2119)
AND Orders.amount < 10000
ORDER BY Customers.company ASC;
```



MFR	PRODU	COMPANY	PRICE
REI	2A44G	JCP Inc.	350
ACI	41003	JCP Inc.	107
ACI	4100X	JCP Inc.	25
IMM	773C	Zetacorp	975

- 12) List all orders number, the name of the rep who took the order , the city where the rep has his/her office.

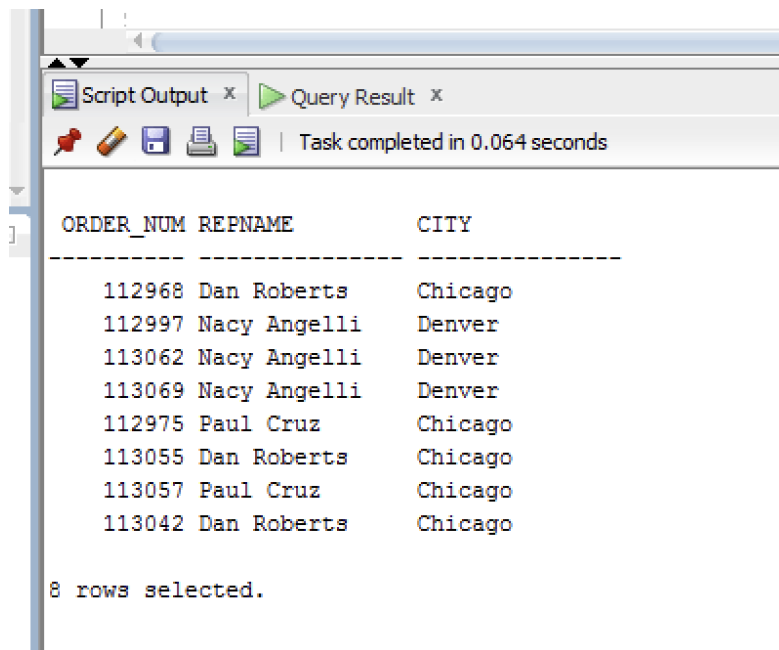
Print the employee whose office is in either Chicago or Denver;

```
SELECT Orders.order_num, Salesreps.name AS RepName, Offices.city
```

```

FROM Orders, Salesreps, Offices
WHERE Orders.rep = Salesreps.empl_num
AND Salesreps.rep_office = Offices.office
AND Offices.city IN ('Chicago', 'Denver');

```



The screenshot shows a database query result window with two tabs: 'Script Output' and 'Query Result'. The 'Query Result' tab is active, displaying a table with 8 rows. The table has three columns: 'ORDER_NUM', 'REPNAME', and 'CITY'. The data is as follows:

ORDER_NUM	REPNAME	CITY
112968	Dan Roberts	Chicago
112997	Nacy Angelli	Denver
113062	Nacy Angelli	Denver
113069	Nacy Angelli	Denver
112975	Paul Cruz	Chicago
113055	Dan Roberts	Chicago
113057	Paul Cruz	Chicago
113042	Dan Roberts	Chicago

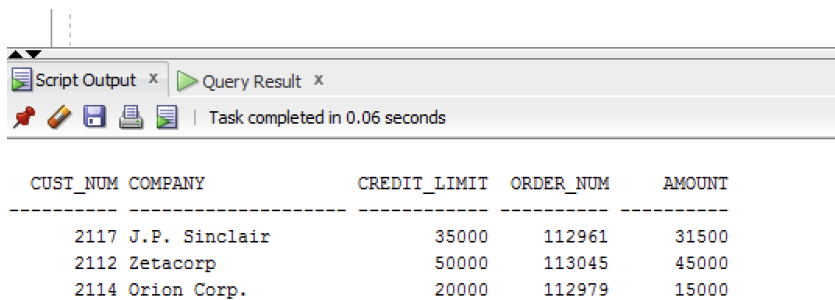
Below the table, it states '8 rows selected.' The window also shows a status bar indicating 'Task completed in 0.064 seconds'.

13) List all customers (Customer number, Company, and Credit Limit) and orders (Order Number, Amount) where the Amount is within \$10,000 of the Credit Limit. Therefore:

- Credit_limit should be greater than zero and
 - Amount should be greater than zero and
 - Amount should be less than credit_limit and
 - Credit_limit - Amount <=\$10000
- ```

SELECT cust_num, company, credit_limit, order_num, amount
FROM Customers cust, Orders ord
WHERE cust.cust_num = ord.cust
AND credit_limit > 0
AND amount > 0
AND amount < credit_limit
AND (credit_limit - amount) <= 10000;

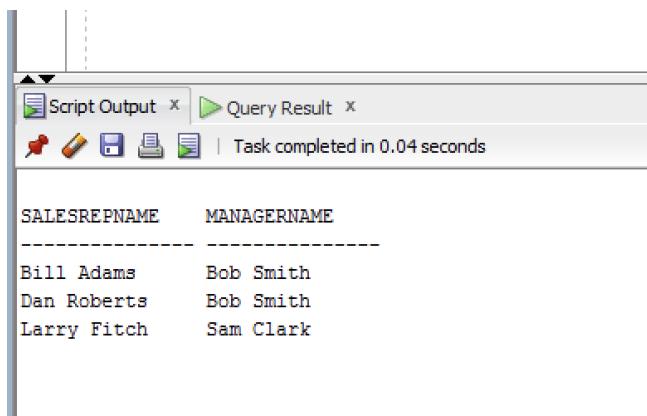
```



| CUST_NUM | COMPANY       | CREDIT_LIMIT | ORDER_NUM | AMOUNT |
|----------|---------------|--------------|-----------|--------|
| 2117     | J.P. Sinclair | 35000        | 112961    | 31500  |
| 2112     | Zetacorp      | 50000        | 113045    | 45000  |
| 2114     | Orion Corp.   | 20000        | 112979    | 15000  |

14) List all salesreps names and their managers' names where the salesrep is at least as old as the manager. Duplicate rows are not allowed.

```
SELECT Salesreps.name AS SalesRepName, Managers.name AS ManagerName
FROM Salesreps, Salesreps AS Managers
WHERE Salesreps.manager = Managers.empl_num
AND Salesreps.age >= Managers.age;
```



| SALESREPNAME | MANAGERNAME |
|--------------|-------------|
| Bill Adams   | Bob Smith   |
| Dan Roberts  | Bob Smith   |
| Larry Fitch  | Sam Clark   |

15) List all salesreps (Name) and the City they work in where either the sales of the salesrep < Quota or the sales for the office is < Target.

```
SELECT name, city
FROM SalesReps, Offices
WHERE SalesReps.rep_office = Offices.office AND (SalesReps.sales < SalesReps.quota OR
Offices.sales < Offices.target);
```

| Script Output x Query Result x  |         |
|---------------------------------|---------|
| Task completed in 0.056 seconds |         |
| NAME                            | CITY    |
| Bob Smith                       | Chicago |
| Dan Roberts                     | Chicago |
| Paul Cruz                       | Chicago |
| Nacy Angelli                    | Denver  |

16) List the name, id, and hire date of the salesreps where the following two conditions hold:

a) The salesrep sales should be greater than the quota and

b) The rep should be either "Sam Clark", or "Mary Jones"

```
SELECT empl_num, name, hire_date
FROM Salesreps
WHERE sales > quota AND name IN ('Sam Clark', 'Mary Jones');
```

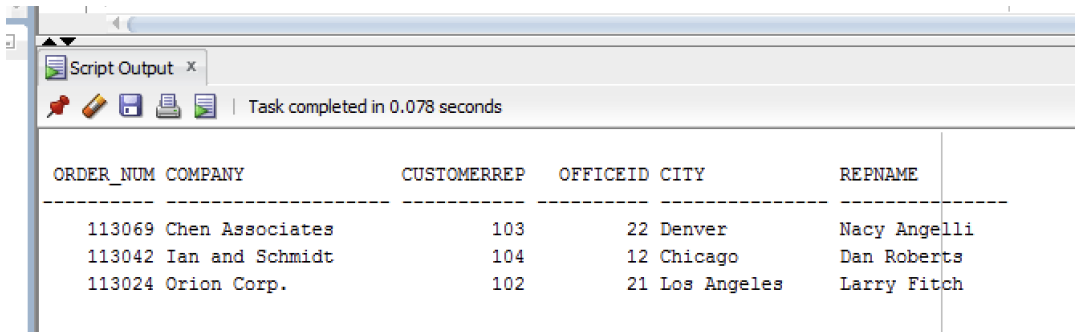
| Script Output x Query Result x  |  |
|---------------------------------|--|
| Task completed in 0.046 seconds |  |

| EMPL_NUM | NAME       | HIRE_DATE |
|----------|------------|-----------|
| 109      | Mary Jones | 12-OCT-19 |
| 106      | Sam Clark  | 14-JUN-21 |

17) List all orders (Order Number) over \$7,000 showing the company placing the order, the Customer Rep assign to the company, the Office id and the city , and the rep who took the order where such that the Customer Rep's is not the rep who took the order.

```
SELECT Orders.order_num, Customers.company, Customers.cust_rep AS CustomerRep,
Offices.office AS OfficeID, Offices.city, Salesreps.name AS RepName
FROM Orders, Customers, Offices, Salesreps
WHERE Orders.cust = Customers.cust_num
AND Orders.rep = Salesreps.empl_num
AND Salesreps.rep_office = Offices.office
AND Orders.amount > 7000
AND Customers.cust_rep <> Orders.rep;
```



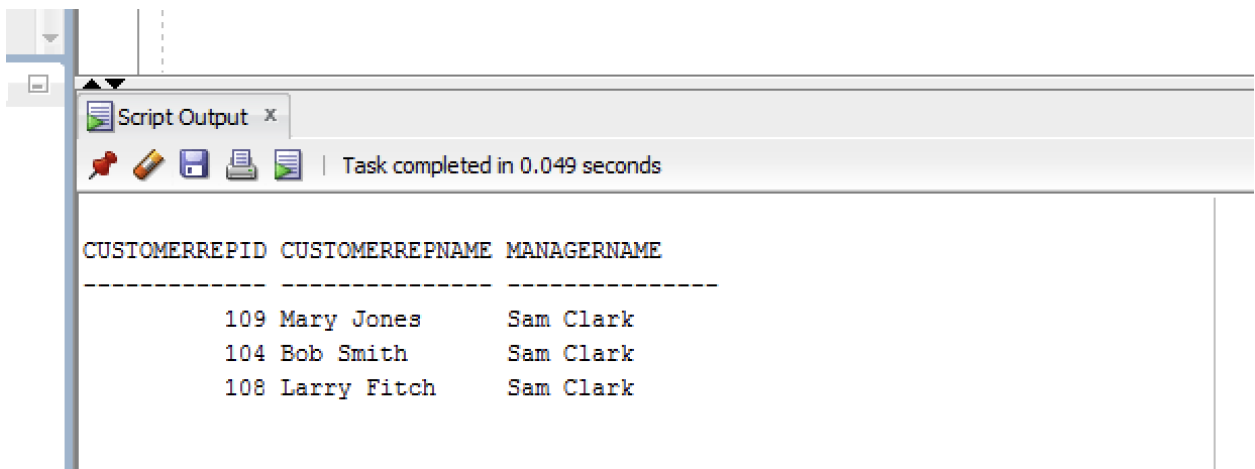


Script Output x

Task completed in 0.078 seconds

| ORDER_NUM | COMPANY         | CUSTOMERREP | OFFICEID | CITY        | REPNAME      |
|-----------|-----------------|-------------|----------|-------------|--------------|
| 113069    | Chen Associates | 103         | 22       | Denver      | Nacy Angelli |
| 113042    | Ian and Schmidt | 104         | 12       | Chicago     | Dan Roberts  |
| 113024    | Orion Corp.     | 102         | 21       | Los Angeles | Larry Fitch  |

- 18) List all customer reps (their name and their id) and their managers name in which the manager is based in New York. Use appropriate column header.



Script Output x

Task completed in 0.049 seconds

| CUSTOMERREPID | CUSTOMERREPNAME | MANAGERNAME |
|---------------|-----------------|-------------|
| 109           | Mary Jones      | Sam Clark   |
| 104           | Bob Smith       | Sam Clark   |
| 108           | Larry Fitch     | Sam Clark   |

- 19) List all products (ProductId, MFR\_Id, and Description), customers (CustNum, Company) who have bought that product, and orders (Order Number, and Order Date) where the order < \$700. Sort the rows by the OrderDate. Duplicate rows is not allowed.

```
SELECT Product_Id, MFR_ID, DESCRIPTION, Cust_num, Company, Order_Num, Order_date
FROM Products, Customers, Orders
WHERE cust = Cust_num AND product = Product_Id AND mfr = MFR_ID AND amount < 700.00
ORDER BY Order_date;
```

Script Output x Query Result x

Task completed in 0.043 seconds

| PRODU | MFR | DESCRIPTION     | CUST_NUM | COMPANY           | ORDER_NUM | ORDER_DAT |
|-------|-----|-----------------|----------|-------------------|-----------|-----------|
| 41003 | BIC | HANDLE          | 2124     | Peter Brothers    | 112997    | 08-JAN-21 |
| 41003 | BIC | HANDLE          | 2124     | Peter Brothers    | 112997    | 08-JAN-21 |
| 4100X | ACI | WIDGET ADJUSTER | 2111     | JCP Inc.          | 113057    | 18-FEB-21 |
| 4100X | ACI | WIDGET ADJUSTER | 2111     | JCP Inc.          | 113057    | 18-FEB-21 |
| 2A45C | REI | RATCHET LINK    | 2107     | Ace International | 113034    | 14-NOV-21 |
| 2A45C | REI | RATCHET LINK    | 2107     | Ace International | 113034    | 14-NOV-21 |
| 4100X | ACI | WIDGET ADJUSTER | 2108     | Holm and Landis   | 113055    | 15-FEB-22 |
| 4100X | ACI | WIDGET ADJUSTER | 2108     | Holm and Landis   | 113055    | 15-FEB-22 |
| 41003 | BIC | HANDLE          | 2118     | Midwest Systems   | 113013    | 14-JAN-23 |
| 41003 | BIC | HANDLE          | 2118     | Midwest Systems   | 113013    | 14-JAN-23 |

10 rows selected.

- 20) List the name of the salesreps and the name of their managers only if the manager has taken care of some orders.

Script Output x Query Result x

Task completed in 0.047 seconds

| SALESREPNAME | MANAGERNAME |
|--------------|-------------|
| Mary Jones   |             |
| Bob Smith    |             |
| Larry Fitch  |             |
| Sue Smith    |             |
| Nacy Angelli |             |
| Tom Synder   |             |

6 rows selected.