Assignment 2 – Solution

No Duplicate Rows are allowed in the following questions

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.

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

```
OFFICE CITY              REGION          MGR     TARGET      SALES
------- ---------------- ----------- ----------- ---------- ----------
     33 Atlanta          Eastern         105      35000      367912
     22 Denver           Western         108      30000      116042
     21 Los Angeles      Western         108     725000      835919
     12 Chicago          Eastern         104      80000      725042
     11 New York         Eastern         106      57000      612637
```

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 then 20000. Return the list in descending order by their dollar value.

   SELECT Product_id, MFR_id, Description, (Price * Qty_On_Hand) As "Dollar Amount"
   FROM Products
   where (Price * Qty_On_Hand) > 20000
   ORDER BY "Dollar Amount" DESC;

```
PRODU MFR DESCRIPTION          Dollar Amount
----- --- -------------------- -------------
4100Z ACI WIDGET INSTALLER            70000
4100Y ACI WIDGET REMOVER              68750
2A44L RIE LEFT HINGE                  54000
2A44R REI RIGHT HINGE                 54000
773C  IMM 300-LB BRACE                27300
XK48  QSA REDUCER                     27202
41003 ACI SIZE 3 WIDGET               22149

7 rows selected.
```

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.)

SELECT ORDER_NUM, ORDER_DATE, Cust, product, Rep
FROM Orders
WHERE (Product = '779C' OR Product = '773C');

```
ORDER_NUM ORDER_DAT       CUST PRODU        REP
--------- ---------  --------- -----  ---------
   113012 11-JAN-20       2110 773C        105
   113007 08-JAN-20       2138 773C        108
   113069 02-MAR-20       2175 779C        107
   113048 10-FEB-18       2124 779C        102
   113003 25-FEB-20       2124 779C        109
```

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

SELECT name, age
FROM Salesreps
WHERE rep_office IN (11,13);

```
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
Nacy Angelli

6 rows selected.
```

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 <mark>which are more than 6</mark> character <mark>and less than 10 character</mark> long. No duplicate row is allowed. You can use the build in function length() to do this. For example, length(name) return 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 order Amount less <mark>than $600,000,</mark> 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 DISTINCT orders.order_num, S2.name, customers.company, S1.name, Amount
FROM orders, salesreps S2, customers, salesreps S1
WHERE (rep = S2.empl_num) AND (customers.cust_num = orders.cust) AND (customers.cust_rep = S1.empl_num) and (Amount < 600000);

ORDER_NUM	NAME	COMPANY	NAME	AMOUNT
113027	Bill Adams	Rico Enterprises	Sue Smith	412204
112963	Bill Adams	Smithson Corp.	Dan Roberts	322276
112993	Sue Smith	Smithson Corp.	Dan Roberts	122896
113069	Nacy Angelli	Iane and Schmidt	Bob Smith	312350
113058	Mary Jones	J.P.C. Sinclair	Sam Clark	211480
112989	Sam Clark	First Corp.	Dan Roberts	122458
113003	Mary Jones	Ace International	Tom Synder	578625
113048	Sue Smith	Ace International	Tom Synder	375212
113036	Tom Synder	Ace International	Tom Synder	221500
113057	Paul Cruz	First Corp.	Dan Roberts	278200
113012	Bill Adams	JJCP Inc.	Paul Cruz	307745
112961	Sam Clark	JJCP Inc.	Paul Cruz	310500
112968	Dan Roberts	Carter and Sons	Sue Smith	321978
113055	Dan Roberts	Ace International	Tom Synder	150211
113034	Tom Synder	AAAA Products	Dan Roberts	121632
113013	Larry Fitch	Three-Way Lines	Bill Adams	111652
113007	Larry Fitch	Orion Corp.	Sue Smith	29250
112979	Sue Smith	Chena Associates	Paul Cruz	152000
113045	Larry Fitch	Ace International	Tom Synder	452000
113024	Larry Fitch	Jose Inc.	Mary Jones	527100
113049	Larry Fitch	Carter and Sons	Sue Smith	212776
112975	Paul Cruz	Smithson Corp.	Dan Roberts	210211
113062	Nacy Angelli	Iane and Schmidt	Bob Smith	22430
113065	Sue Smith	Ace International	Tom Synder	299130
113051	Larry Fitch	Carter and Sons	Sue Smith	122420
112997	Nacy Angelli	Holm and Landis	Mary Jones	292652

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 < $200000. Order the results by ascending Company. Duplicate row are not allowed.

SELECT DISTINCT MFR_ID, PRODUCT_ID, COMPANY, price
FROM products, customers, orders
WHERE orders.cust = customers.cust_num AND customers.cust_num in (2111,2112,2105,2119)
AND AMOUNT > 200000 AND orders.MFR = products.MFR_ID AND orders.product =
products.product_ID
ORDER BY company ASC;

```
MFR PRODU COMPANY                        PRICE
--- ----- -------------------- ----------
ACI 4100X First Corp.                       25
ACI 4100Y First Corp.                     2750
```

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 order_num, name, city
From orders, salesreps, offices
Where rep = empl_num and rep_office = office and City in ('Chicago', 'Denver');

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

8 rows selected.
```

13) List all customers (Customer number, Company, and Credit Limit) and orders (Order Number, Amount) where the Amount is within $80000 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 <=$80,000

SELECT cust_num, company, credit_limit, orders.order_num, orders.amount
FROM orders, customers
WHERE (cust = cust_num) And
    (Amount <= Credit_Limit) And
    (Amount > 0) and
    (Credit_limit >0) and
    (Credit_limit - Amount) <= 80000;

CUST_NUM	COMPANY	CREDIT_LIMIT	ORDER_NUM	AMOUNT
2123	Carter and Sons	400000	112968	321978
2124	Ace International	350000	113065	299130
2125	Smithson Corp.	200000	112993	122896

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 DISTINCT S1.name, S2.name
FROM salesreps S1, salesreps S2
WHERE S1.manager = S2.empl_num AND S1.age >= S2.age;

NAME	NAME
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 salesreps.name, offices.city
FROM offices, salesreps
WHERE salesreps.rep_office = offices.office And
((salesreps.sales < salesreps.quota) or (offices.sales < offices.target)) ;

NAME	CITY
Bob Smith	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 DISTINCT salesreps.name, salesreps.empl_num, salesreps.hire_date, cust
   FROM salesreps, orders
   WHERE ((salesreps.sales > salesreps.QUOTA) And
       (orders.rep = salesreps.empl_num) and
       (name in ('Sam Clark', 'Mary Jones')));

```
NAME              EMPL_NUM HIRE_DATE    CUST
---------------   -------- ---------- ----------
Sam Clark              106 14-JUN-21    2111
Mary Jones             109 12-OCT-19    2124
Mary Jones             109 12-OCT-19    2150
Sam Clark              106 14-JUN-21    2110
```

17) List all orders (Order Number) over $500000 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 DISTINCT order_num, company, cust_rep, rep, rep_office, city
   FROM orders, customers, salesreps, offices
   WHERE (AMOUNT > 500000) AND (cust_rep = empl_num) AND (rep_office = office) AND (cust = cust_num) and cust_rep <> rep;

```
ORDER_NUM COMPANY              CUST_REP     REP REP_OFFICE CITY
--------- -------------------- ---------- ---------- ---------- -----------
   113024 Jose Inc.                   109        108         11 New York
   112987 First Corp.                 101        105         12 Chicago
   112992 Chena Associates            103        108         12 Chicago
```

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.

   Select Company, Cust_rep, E.Name, M.name, City
   From Customers, salesreps E, salesreps M, offices
   where (cust_rep = E.empl_num) and (E.Manager = M.Empl_num) and (M.Rep_office = office) and (City='New York');

```
COMPANY             CUST_REP NAME            NAME            CITY
------------------- -------- --------------- --------------- -----------
Holm and Landis          109 Mary Jones      Sam Clark       New York
Jose Inc.                109 Mary Jones      Sam Clark       New York
Iane and Schmidt         104 Bob Smith       Sam Clark       New York
Zetacorp                 108 Larry Fitch     Sam Clark       New York
Midwest Systems          108 Larry Fitch     Sam Clark       New York
```

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 < $150000. Sort the rows by the OrderDate. Duplicate rows is not allowed.

SELECT DISTINCT product_id, mfr_id, description, cust_num, company, order_num, order_date
FROM products, customers, orders
WHERE (AMOUNT < 150000) AND (cust=cust_num) AND (product = product_ID) AND (MFR = MFR_ID)
ORDER BY Order_date;

```
PRODU MFR DESCRIPTION            CUST_NUM COMPANY              ORDER_NUM ORDER_DAT
----- --- -------------------- ---------- -------------------- ---------- ---------
41003 BIC HANDLE                   2155 Three-Way Lines          113013 14-JAN-18
773C  IMM 300-LB BRACE             2138 Orion Corp.              113007 08-JAN-20
114   FEA MOTOR MOUNT              2175 Iane and Schmidt          113062 24-FEB-21
114   FEA MOTOR MOUNT              2111 First Corp.               112989 03-JAN-22
```

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

SELECT DISTINCT E.name Employee, M.name Manager
FROM salesreps E, salesreps M, orders
WHERE (E.manager = M.empl_num) AND (orders.rep = M.empl_num);

```
EMPLOYEE        MANAGER
--------------- ---------------
Mary Jones      Sam Clark
Nacy Angelli    Larry Fitch
Larry Fitch     Sam Clark
Sue Smith       Larry Fitch
Tom Synder      Dan Roberts
Bob Smith       Sam Clark

6 rows selected.
```