

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.

```
SELECT
  office,
  city,
  region,
  mgr,
  target,
  sales
FROM
  OFFICES
ORDER BY
  office DESC;
```

OFFICE CITY	REGION	MGR	TARGET	SALES
22 Denver	Western	108	300000	186042
21 Los Angeles	Western	108	725000	835915
13 Atlanta	Eastern	105	350000	367911
12 Chicago	Eastern	104	800000	735042
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.

```

SELECT
    product_id,
    mfr_id,
    description AS Name,
    price * qty_on_hand AS dollar_value
FROM
    PRODUCTS
WHERE
    price * qty_on_hand > 20000
ORDER BY
    dollar_value DESC;

```

PRODU	MFR	NAME	DOLLAR_VALUE
4100Z	ACI	WIDGET INSTALLER	70000
4100Y	ACI	WIDGET REMOVER	68750
2A44L	REI	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 AS customer_number,
    rep AS sales_rep_number
FROM
    ORDERS
WHERE
    product = '779C' OR product = '773C';

```

ORDER_NUM	ORDER_DAT	CUSTOMER_NUMBER	SALES_REP_NUMBER
113007	08-JAN-23	2112	108
113048	10-FEB-21	2120	102
113003	25-JAN-22	2108	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 lowercase 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 AS sales_rep_id,
    name
FROM
    SALESREPS
WHERE
    rep_office IS NULL;

```

```

SALES_REP_ID NAME
-----

```

```

    110 Tom Synder

```

- 7) Show all the sales rep names with last names "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 characters and less than 10 characters 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 an 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
    o.order_num,
    s1.name AS rep_name,
    c.company AS customer_name,
    s2.name AS customer_rep_name
FROM
    ORDERS o
JOIN
    SALESREPS s1 ON o.rep = s1.empl_num
JOIN
    CUSTOMERS c ON o.cust = c.cust_num
JOIN
    SALESREPS s2 ON c.cust_rep = s2.empl_num
WHERE
    o.amount < 700;

```

ORDER_NUM	REP_NAME	CUSTOMER_NAME	CUSTOMER_REP_NAME
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 rows are not allowed.

```

SELECT DISTINCT
    p.mfr_id,
    p.product_id,
    c.company,
    p.price
FROM
    ORDERS o
JOIN
    CUSTOMERS c ON o.cust = c.cust_num
JOIN
    PRODUCTS p ON o.product = p.product
WHERE
    o.cust IN (2111, 2112, 2105, 2119)
    AND o.amount < 10000
ORDER BY
    c.company ASC;

```

MFR	PRODU	COMPANY	PRICE
---	-----	-----	-----
REI	2A44G	JCP Inc.	350
ACI	41003	JCP Inc.	107
BIC	41003	JCP Inc.	652
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
    o.order_num,
    s.name AS rep_name,
    f.city AS office_city
FROM
    ORDERS o
JOIN
    SALESREPS s ON o.rep = s.empl_num
JOIN
    OFFICES f ON s.rep_office = f.office
WHERE
    f.city IN ('Chicago', 'Denver');
```

ORDER_NUM	REP_NAME	OFFICE_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

8 rows selected.

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

```

1) SELECT
    c.cust_num AS customer_number,
    c.company,
    c.credit_limit,
    o.order_num,
    o.amount
FROM
    CUSTOMERS c
JOIN
    ORDERS o ON c.cust_num = o.cust
WHERE
    c.credit_limit > 0
    AND o.amount > 0
    AND o.amount < c.credit_limit
    AND (c.credit_limit - o.amount) <= 10000;

```

CUSTOMER_NUMBER	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 DISTINCT
    s1.name AS salesrep_name,
    s2.name AS manager_name
FROM
    SALESREPS s1
JOIN
    SALESREPS s2 ON s1.manager = s2.empl_num
WHERE
    s1.age >= s2.age;

```

SALESREP_NAME	MANAGER_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
    s.name AS salesrep_name,
    o.city AS office_city
FROM
    SALESREPS s
JOIN
    OFFICES o ON s.rep_office = o.office
WHERE
    s.sales < s.quota
    OR o.sales < o.target;

```

SALESREP_NAME	OFFICE_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:
- The salesrep sales should be greater than the quota and
 - The rep should be either "Sam Clark", or "Mary Jones"

```

SELECT
    name,
    empl_num AS id,
    hire_date
FROM
    SALESREPS
WHERE
    sales > quota
    AND (name = 'Sam Clark' OR name = 'Mary Jones');

```

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

- 17) List all orders (Order Number) over \$7,000 showing the company placing the order, the Customer Rep assigned 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
    o.order_num AS order_number,
    c.company AS company_name,
    c.cust_rep AS customer_rep,
    f.office AS office_id,
    f.city AS office_city,
    s1.name AS order_rep_name
FROM
    ORDERS o
JOIN
    CUSTOMERS c ON o.cust = c.cust_num
JOIN
    SALESREPS s1 ON o.rep = s1.empl_num
JOIN
    OFFICES f ON s1.rep_office = f.office
WHERE
    o.amount > 7000
    AND c.cust_rep <> o.rep;

```

ORDER_NUMBER	COMPANY_NAME	CUSTOMER_REP	OFFICE_ID	OFFICE_CITY	ORDER_REP_NAME
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 the appropriate column header.

```

SELECT
    s1.name AS customer_rep_name,
    s1.empl_num AS customer_rep_id,
    s2.name AS manager_name
FROM
    SALESREPS s1
JOIN
    SALESREPS s2 ON s1.manager = s2.empl_num
JOIN
    OFFICES o ON s2.rep_office = o.office
WHERE
    o.city = 'New York';

```

CUSTOMER_REP_NAME	CUSTOMER_REP_ID	MANAGER_NAME
-------------------	-----------------	--------------

Mary Jones	109	Sam Clark
Bob Smith	104	Sam Clark
Larry Fitch	108	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 are 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
ORDER BY
    ORDER_DATE;
```

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

- 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
    employee.name AS "EMPLOYEE_NAME",
    manager.name AS "MANAGER_NAME"
FROM
    salesreps employee,
    salesreps manager,
    orders
WHERE
    employee.manager = manager.empl_num
    AND orders.rep = manager.empl_num;
```

EMPLOYEE_NAME	MANAGER_NAME
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.