SCHOOL OF COMPUTING Course Name: Database

AND INFORMATION TECHNOLOGY Course Code: CSE 301

%□ Student's Full Name:

Practice Assignment 5 Student ID:

### Instruction:

\* Students are allowed to write their answers (like SQL queries, Screen shot of outputs, etc.) in word file (Answer sheet) provided by instructor. After finishing the assignment, students must convert the word file (Answer sheet) into a PDF file. Finally, students upload the file in Moodle.

## I. Using the database 'SaleManagement' with following schema below:

Clients(Client Number, Client\_Name, Address, City, Pincode, Province, Amount\_Paid, Amount\_Due)

Product(<u>Product\_Number</u>, Product\_Name, Quantity\_On\_Hand, Quantity\_Sell, Sell\_Price, Cost\_Price)

Salesman (<u>Salesman Number</u>, Salesman Name, Address, City, Pincode, Province, Salary, Sales\_Target, Target Achieve, Phone)

Salesorder(Order Number, Order\_Date, Client\_Number, Salesman\_Number, Delivery\_Status, Delivery Date, Order Status)

Salesorderdetails(Order Number, Product Number, Order Quantity)

### II. Insert more values data below:

### Salesman

('S007','Quang','Chanh My','Da Lat',700032,'Lam Dong',25000,90,95,'0900853487') ('S008','Hoa','Hoa Phu','Thu Dau Mot',700051,'Binh Duong',13500,50,75,'0998213659')

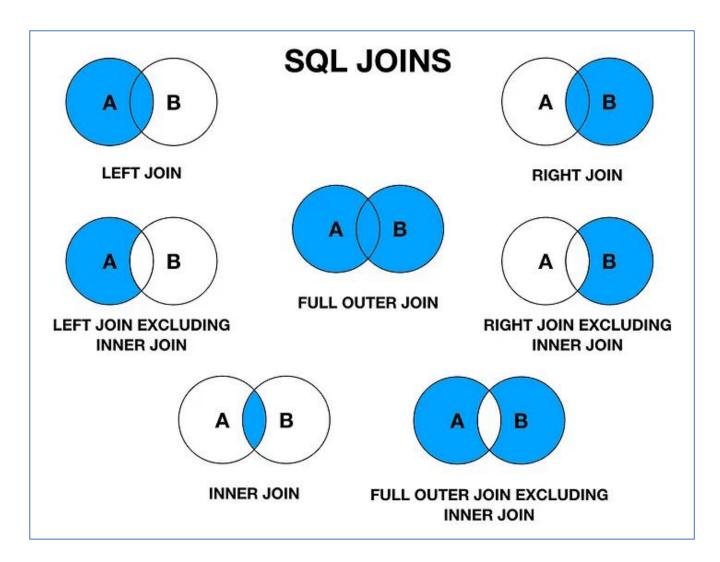
### Salesorder

('O20015','2022-05-12','C108','S007','On Way', '2022-05-15','Successful') ('O20016','2022-05-16','C109','S008','Ready to Ship',null,'In Process')

### Salesorderdetails

('O20015','P1008',15), ('O20015','P1007',10), ('O20016','P1007',20); ('O20016','P1003',5);

## III. Using Joining table to combine rows from more than one table.



Read more at: <a href="https://tinyurl.com/SQL-AllJoinTypes">https://tinyurl.com/SQL-AllJoinTypes</a>

# Supported Types of Joins in MySQL

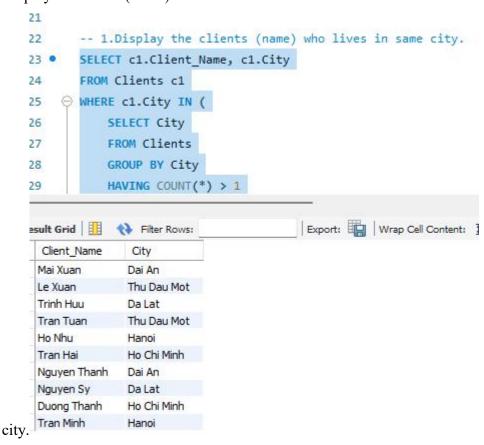
INNER JOIN: Returns records that have matching values in both tables

LEFT JOIN: Returns all records from the left table, and the matched records from the right table

RIGHT JOIN: Returns all records from the right table, and the matched records from the left table

CROSS JOIN: Returns all records from both tables

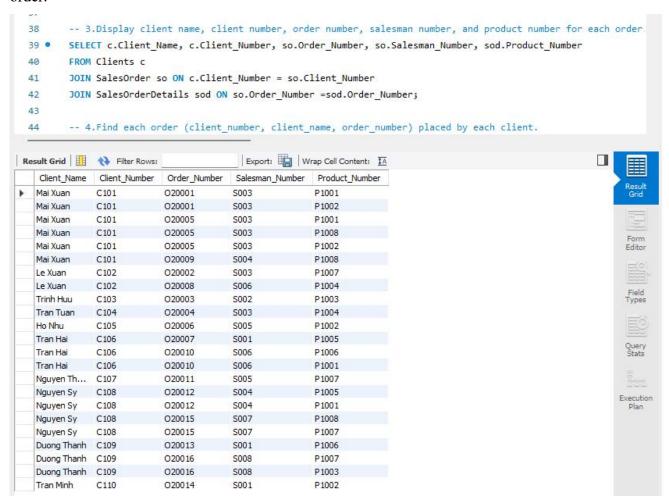
1. Display the clients (name) who lives in same



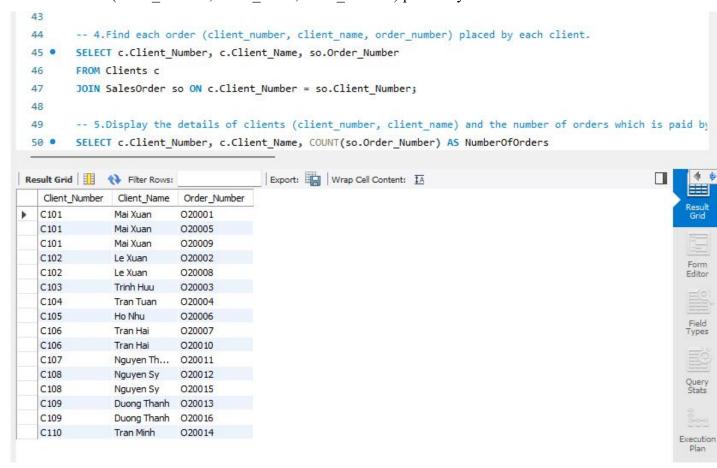
2. Display city, the client names and salesman names who are lives in "Thu Dau Mot" city.

```
);
 30
 31
         -- 2.Display city, the client names and salesman names who are lives in "Thu Dau Mot" city.
 32
         SELECT c.City, c.Client Name, s.Salesman Name
 33 •
         FROM Clients c, Salesman s
 34
         WHERE c.City = 'Thu Dau Mot'
 35
 36
         AND s.City = 'Thu Dau Mot';
 37
 38
         -- 3.Display client name, client number, order number, salesman number, and product number for each or
         SELECT c.Client Name, c.Client Number, so.Order Number, so.Salesman Number, sod.Product Number
 40
         FROM Clients c
         JOIN SalesOrder so ON c.Client_Number = so.Client_Number
 41
                                          Export: Wrap Cell Content: IA
Result Grid
             Filter Rows:
               Client_Name
                          Salesman_Name
  Thu Dau Mot
              Le Xuan
                          Hoa
  Thu Dau Mot
              Le Xuan
                          Deb
  Thu Dau Mot
              Le Xuan
                          Khoa
  Thu Dau Mot
              Tran Tuan
                          Hoa
  Thu Dau Mot
              Tran Tuan
                          Deb
  Thu Dau Mot Tran Tuan
                          Khoa
```

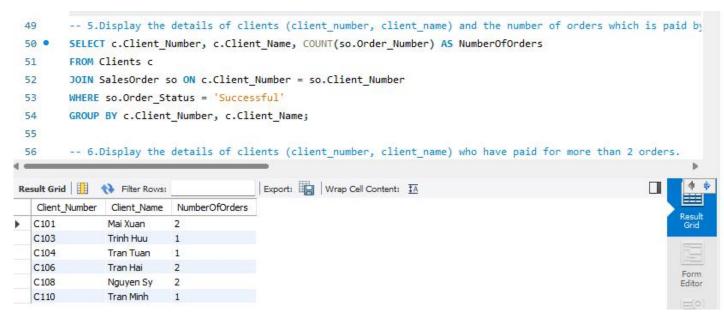
3. Display client name, client number, order number, salesman number, and product number for each order.



4. Find each order (client number, client name, order number) placed by each client.



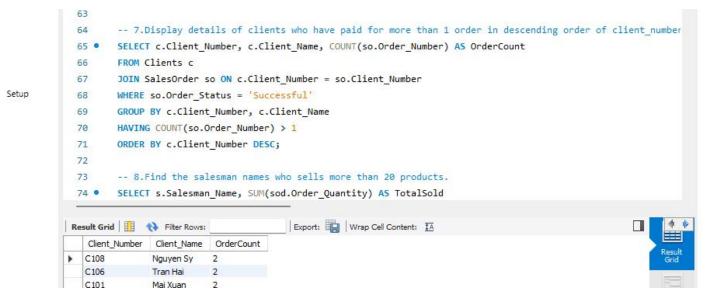
5. Display the details of clients (client\_number, client\_name) and the number of orders which is paid by them.



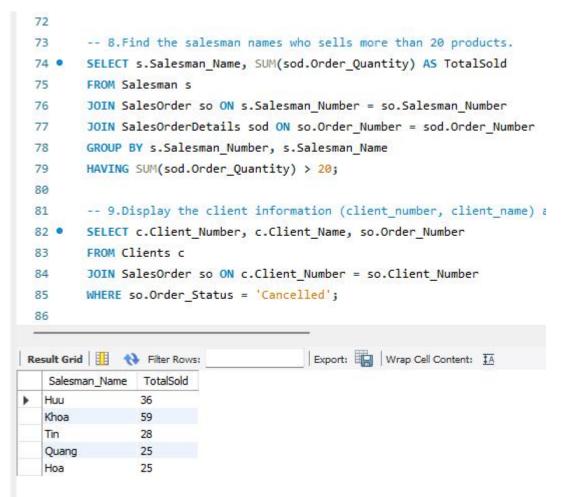
6. Display the details of clients (client number, client name) who have paid for more than 2 orders.

```
-- 6.Display the details of clients (client number, client name) who have paid for more than 2 orders.
 56
 57 •
        SELECT c.Client_Number, c.Client_Name
        FROM Clients c
 58
        JOIN SalesOrder so ON c.Client_Number = so.Client_Number
 59
        WHERE so.Order_Status = 'Successful'
 60
        GROUP BY c.Client Number, c.Client Name
 61
 62
        HAVING COUNT(so.Order_Number) > 2;
 63
        -- 7.Display details of clients who have paid for more than 1 order in descending order of client_number
 64
 65 •
        SELECT c.Client_Number, c.Client_Name, COUNT(so.Order_Number) AS OrderCount
                                       Export: Wrap Cell Content: TA
Client_Number Client_Name
```

7. Display details of clients who have paid for more than 1 order in descending order of client\_number.

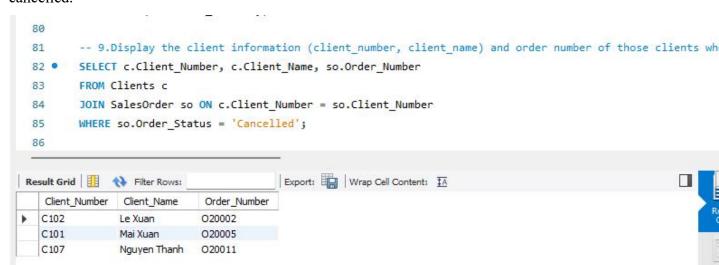


8. Find the salesman names who sells more than 20



products.

Display the client information (client\_number, client\_name) and order number of those clients who
have order status is
cancelled.



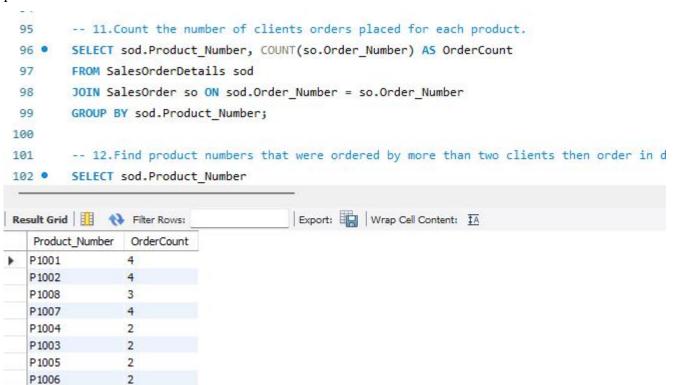
10. Display client name, client number of clients C101 and count the number of orders which were received

#### "successful".

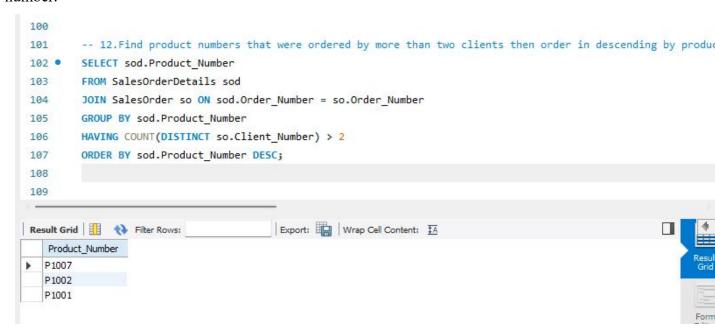
```
00
 87
         -- 10.Display client name, client number of clients C101 and count the number of orders which were recei
         SELECT c.Client Number, c.Client Name, COUNT(so.Order Number) AS SuccessfulOrders
 88 •
         FROM Clients c
 89
 90
         JOIN SalesOrder so ON c.Client_Number = so.Client_Number
         WHERE c.Client_Number = 'C101'
 91
          AND so.Order Status = 'Successful'
 92
 93
         GROUP BY c.Client_Number, c.Client_Name;
 94
         -- 11. Count the number of clients orders placed for each product.
 95
         SELECT sod. Product Number, COUNT(so. Order Number) AS OrderCount
Export: Wrap Cell Content: IA
   Client Number Client Name SuccessfulOrders
▶ C101
               Mai Xuan
                          2
```

# 11. Count the number of clients orders placed for each

# product.



12. Find product numbers that were ordered by more than two clients then order in descending by product number.



# IV. Using nested query with operator (IN, EXISTS, ANY and ALL)

13. Find the salesman's names who is getting the second highest salary.

```
-- IV. Using nested query with operator (IN, EXISTS, ANY and ALL)
        -- 13. Find the salesman's names who is getting the second highest salary.
111
        SELECT Salesman Name
112 •
        FROM Salesman
113
114   WHERE Salary = (
115
             SELECT MAX(Salary)
116
             FROM Salesman
             WHERE Salary < (SELECT MAX(Salary) FROM Salesman)
117
118
       - );
119
120
        -- 14. Find the salesman's names who is getting second lowest salary.
121 •
        SELECT Salesman_Name
        FROM Salesman
122
123 

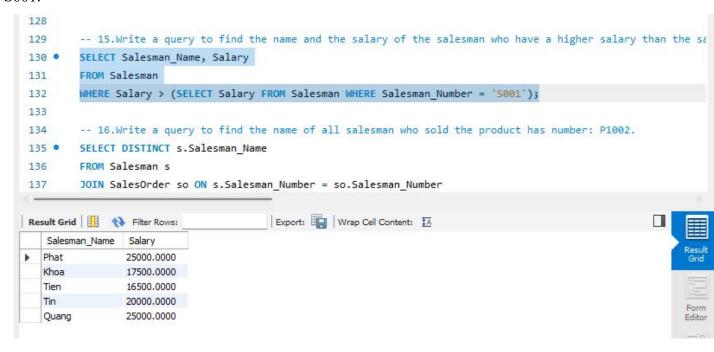
WHERE Salary = (
124
             SELECT MIN(Salary)
125
             FROM Salesman
Export: Wrap Cell Content: $\frac{1}{4}
   Salesman_Name
▶ Tin
```

14. Find the salesman's names who is getting second lowest salary.

```
119
         -- 14. Find the salesman's names who is getting second lowest salary.
120
121 •
         SELECT Salesman Name
122
         FROM Salesman
123
     124
             SELECT MIN(Salary)
             FROM Salesman
125
             WHERE Salary > (SELECT MIN(Salary) FROM Salesman)
126
127
128
         -- 15. Write a query to find the name and the salary of the salesman who have
129
         SELECT Salesman Name, Salary
130 •
         FROM Salesman
131
132
        WHERE Salary > (SELECT Salary FROM Salesman WHERE Salesman_Number = '5001');
133
134
         -- 16.Write a query to find the name of all salesman who sold the product ha
Result Grid Filter Rows:
                                        Export: Wrap Cell Content: TA
   Salesman_Name
Huu
```

15. Write a query to find the name and the salary of the salesman who have a higher salary than the salesman whose salesman number is

S001.

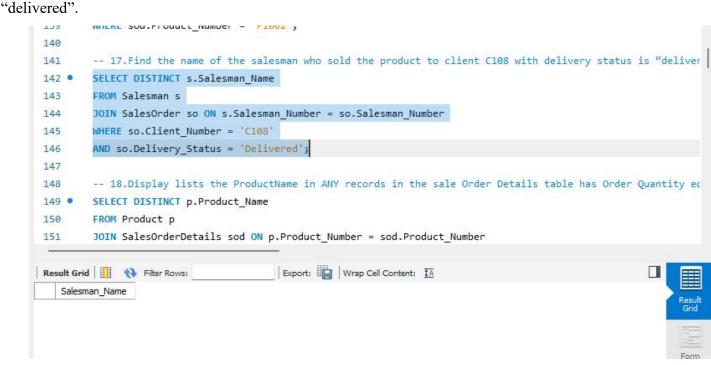


16. Write a query to find the name of all salesman who sold the product has number:

P1002.

```
134
        -- 16. Write a query to find the name of all salesman who sold the product has numbe
         SELECT DISTINCT s.Salesman Name
135 •
         FROM Salesman s
136
         JOIN SalesOrder so ON s.Salesman Number = so.Salesman Number
137
         JOIN SalesOrderDetails sod ON so.Order_Number = sod.Order_Number
138
         WHERE sod.Product Number = 'P1002';
139
140
        -- 17. Find the name of the salesman who sold the product to client C108 with delive
141
142 •
        SELECT DISTINCT s.Salesman Name
143
        FROM Salesman s
        JOIN SalesOrder so ON s.Salesman Number = so.Salesman Number
144
        WHERE so.Client Number = 'C108'
145
Result Grid Filter Rows:
                                        Export: Wrap Cell Content: IA
   Salesman_Name
 Khoa
  Deb
  Huu
```

17. Find the name of the salesman who sold the product to client C108 with delivery status is



18. Display lists the ProductName in ANY records in the sale Order Details table has Order Quantity equal

to

5.

```
146
        AND SO.Delivery Status = Delivered ;
147
         -- 18.Display lists the ProductName in ANY records in the sale Order Details table has Order Quantity ec
148
        SELECT DISTINCT p.Product_Name
149 •
         FROM Product p
150
         JOIN SalesOrderDetails sod ON p.Product_Number = sod.Product_Number
151
         WHERE sod.Order Quantity = 5;
152
        -- 19.Write a query to find the name and number of the salesman who sold pen or TV or laptop.
154
        SELECT DISTINCT s.Salesman Number, s.Salesman Name
        FROM Salesman s
        JOIN SalesOrder so ON s.Salesman Number = so.Salesman Number
157
158
        JOIN SalesOrderDetails sod ON so.Order_Number = sod.Order_Number
Export: Wrap Cell Content: IA
   Product_Name
  Laptop
  AC
```

19. Write a query to find the name and number of the salesman who sold pen or TV or laptop.

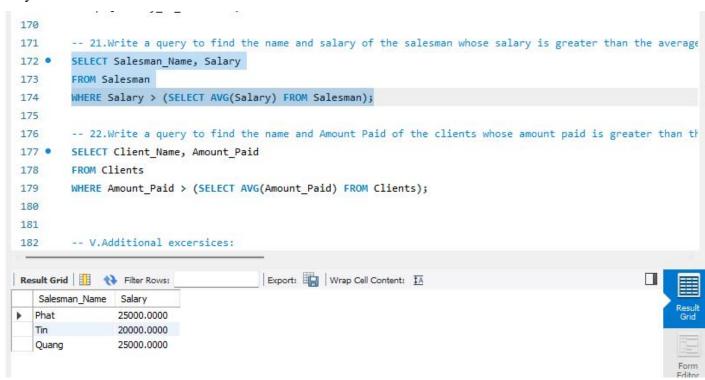
```
153
        -- 19. Write a query to find the name and number of the salesman who sold pen or TV or laptop.
154
        SELECT DISTINCT s.Salesman Number, s.Salesman Name
155 •
        FROM Salesman s
156
        JOIN SalesOrder so ON s.Salesman Number = so.Salesman Number
157
158
        JOIN SalesOrderDetails sod ON so.Order Number = sod.Order Number
        JOIN Product p ON sod. Product Number = p. Product Number
159
        WHERE p.Product_Name IN ('Pen', 'TV', 'Laptop');
160
161
        -- 20.Lists the salesman's name sold product with a product price less than 800 and Quantity On Har
162
        SELECT DISTINCT s.Salesman Name
163 •
164
        FROM Salesman s
165
        JOIN SalesOrder so ON s.Salesman_Number = so.Salesman_Number
        JOIN SalesOrderDetails sod ON so.Order Number = sod.Order Number
166
        JOIN Product p ON sod. Product Number = p. Product Number
167
Export: Wrap Cell Content: IA
   Salesman Number
                  Salesman Name
  S003
                 Khoa
  S005
                 Deb
  S001
  S004
                 Tien
  S006
                 Tin
```

20. Lists the salesman's name sold product with a product price less than 800 and Quantity\_On\_Hand more than

50.

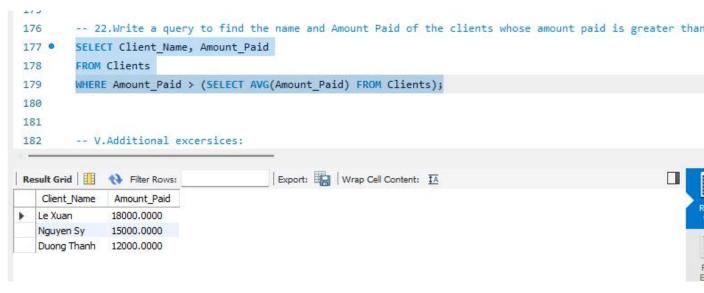
```
161
        -- 20.Lists the salesman's name sold product with a product price less than 800 and Quantity On Hand mor
162
163 •
        SELECT DISTINCT s.Salesman Name
        FROM Salesman s
164
        JOIN SalesOrder so ON s.Salesman_Number = so.Salesman_Number
165
        JOIN SalesOrderDetails sod ON so.Order_Number = sod.Order_Number
166
        JOIN Product p ON sod. Product Number = p. Product Number
167
168
        WHERE p.Sell Price < 800
        AND p.Quantity On Hand > 50;
169
170
        -- 21. Write a query to find the name and salary of the salesman whose salary is greater than the average
171
172 •
        SELECT Salesman Name, Salary
173
        FROM Salesman
                                       Export: Wrap Cell Content: IA
Salesman Name
  Khoa
  Tien
  Quang
```

21. Write a query to find the name and salary of the salesman whose salary is greater than the average salary.



22. Write a query to find the name and Amount Paid of the clients whose amount paid is greater than the average amount

# paid.



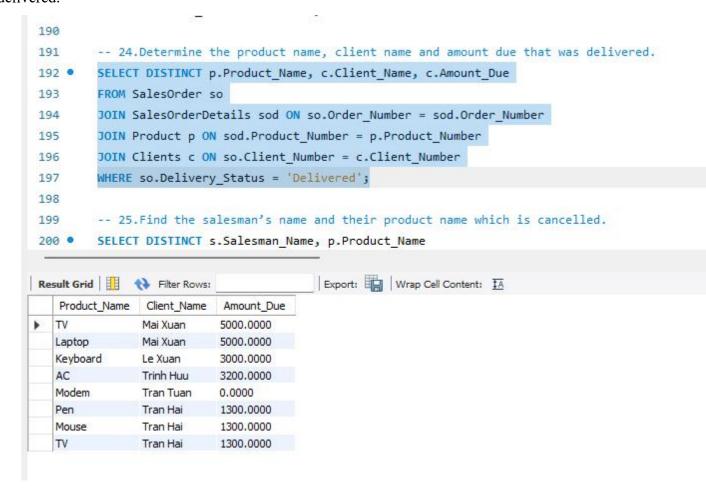
#### V. Additional excersices:

23. Find the product price that was sold to Le

Xuan.

```
181
        -- V.Additional excersices:
182
        -- 23. Find the product price that was sold to Le Xuan.
183
        SELECT DISTINCT p.Sell Price
184 •
185
        FROM Product p
        JOIN SalesOrderDetails sod ON p.Product_Number = sod.Product_Number
186
        JOIN SalesOrder so ON sod.Order_Number = so.Order_Number
187
        JOIN Clients c ON so.Client_Number = c.Client_Number
188
        WHERE c.Client Name = 'Le Xuan';
189
190
        -- 24.Determine the product name, client name and amount due that was delivered.
191
        SELECT DISTINCT p.Product_Name, c.Client_Name, c.Amount_Due
192 •
        FROM SalesOrder so
193
194
        JOIN SalesOrderDetails sod ON so.Order_Number = sod.Order_Number
                                       Export: Wrap Cell Content: TA
Sell_Price
  120,0000
  250.0000
```

24. Determine the product name, client name and amount due that was delivered.



25. Find the salesman's name and their product name which is cancelled.

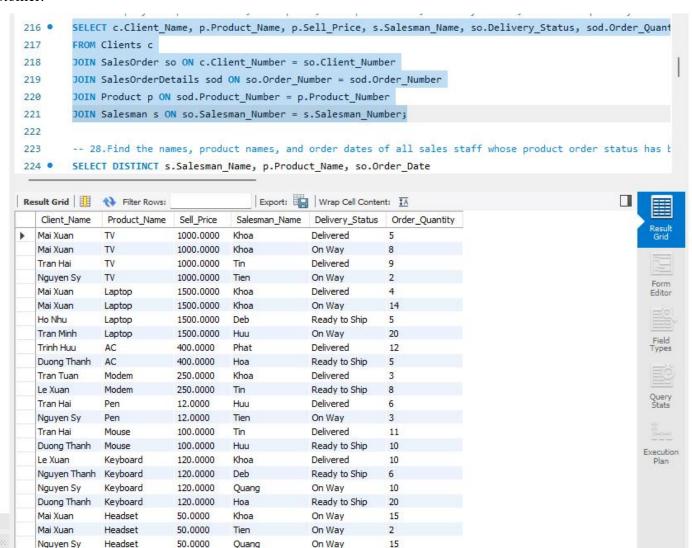
```
198
         -- 25. Find the salesman's name and their product name which is cancelled.
199
         SELECT DISTINCT s.Salesman Name, p.Product Name
200 •
         FROM SalesOrder so
201
202
         JOIN SalesOrderDetails sod ON so.Order Number = sod.Order Number
         JOIN Salesman s ON so.Salesman Number = s.Salesman Number
203
         JOIN Product p ON sod. Product Number = p. Product Number
204
        WHERE so.Order Status = 'Cancelled';
205
206
        -- 26. Find product names, prices and delivery status for those products purchased by
207
        SELECT DISTINCT p.Product Name, p.Sell Price, so.Delivery Status
208 •
        FROM Clients c
209
Result Grid Filter Rows:
                                         Export: Wrap Cell Content: IA
   Salesman_Name Product_Name
                Keyboard
  Khoa
  Khoa
                TV
                Headset
  Khoa
  Khoa
                Laptop
  Deb
                Keyboard
```

26. Find product names, prices and delivery status for those products purchased by Nguyen Thanh.

```
206
207
        -- 26.Find product names, prices and delivery status for those products purchased by Nguyen Thanh.
        SELECT DISTINCT p.Product Name, p.Sell Price, so.Delivery Status
208 •
        FROM Clients c
209
        JOIN SalesOrder so ON c.Client_Number = so.Client_Number
210
        JOIN SalesOrderDetails sod ON so.Order Number = sod.Order Number
211
212
        JOIN Product p ON sod.Product_Number = p.Product_Number
        WHERE c.Client_Name = 'Nguyen Thanh';
213
214
        -- 27.Display the product name, sell price, salesperson name, delivery status, and order quantity info
215
Export: Wrap Cell Content: IA
   Product_Name Sell_Price Delivery_Status
```

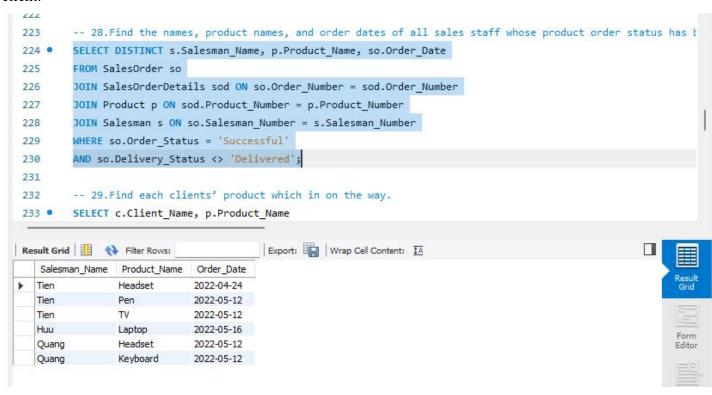
27. Display the product name, sell price, salesperson name, delivery status, and order quantity information for each

customer.

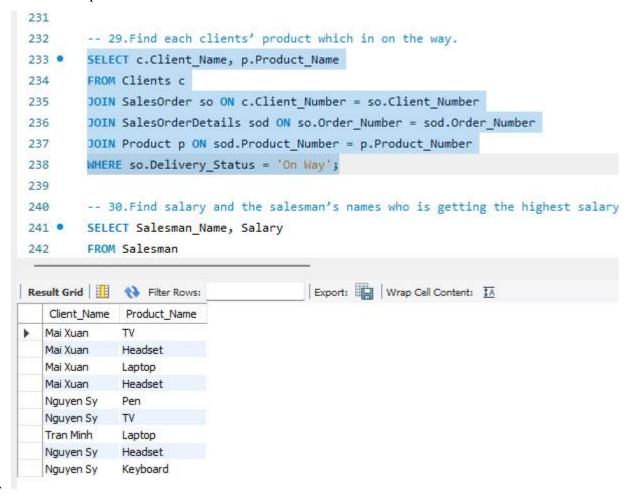


28. Find the names, product names, and order dates of all sales staff whose product order status has been successful but the items have not yet been delivered to the

client.



29. Find each clients' product which in on the



way.

30. Find salary and the salesman's names who is getting the highest salary.

```
239
         -- 30. Find salary and the salesman's names who is getting the highest salary
240
         SELECT Salesman Name, Salary
241 •
         FROM Salesman
242
         WHERE Salary = (SELECT MAX(Salary) FROM Salesman);
243
244
        -- 31. Find salary and the salesman's names who is getting second lowest salary.
245
246 •
        SELECT Salesman Name, Salary
         FROM Salesman
247

→ WHERE Salary = (
248
249
              SELECT MIN(Salary)
250
             FROM Salesman
              WHERE Salary > (SELECT MIN(Salary) FROM Salesman)
251
                                          Export: Wrap Cell Content: IA
Result Grid
             Filter Rows:
   Salesman Name
                 Salary
  Phat
                 25000.0000
  Quang
                25000.0000
```

31. Find salary and the salesman's names who is getting second lowest salary.

```
244
         -- 31. Find salary and the salesman's names who is getting second lowest salary.
245
         SELECT Salesman Name, Salary
         FROM Salesman
247
        WHERE Salary = (
248
             SELECT MIN(Salary)
249
             FROM Salesman
250
             WHERE Salary > (SELECT MIN(Salary) FROM Salesman)
251
252
         );
253
         -- 32.Display lists the ProductName in ANY records in the sale Order Details table has Order Qua
254
Export: Wrap Cell Content: TA
   Salesman_Name
                Salary
▶ Huu
                15000.0000
```

32. Display lists the ProductName in ANY records in the sale Order Details table has Order Quantity more than

9.

```
253
         -- 32.Display lists the ProductName in ANY records in the sale Order Details table has Order Quantity mc
254
         SELECT DISTINCT p.Product Name
         FROM Product p
256
257
         JOIN SalesOrderDetails sod ON p.Product Number = sod.Product Number
         WHERE sod.Order_Quantity > 9;
258
259
         -- 33. Find the name of the customer who ordered the same item multiple times.
260
         SELECT DISTINCT c.Client_Name
261 •
      ⊖ FROM (
262
              SELECT so.Client_Number, sod.Product_Number, COUNT(*) AS cnt
263
                                         Export: Wrap Cell Content: IA
Result Grid Filter Rows:
   Product_Name
   Headset
  Keyboard
   Laptop
  Mouse
```

33. Find the name of the customer who ordered the same item multiple times.

```
200
        WILKE SOU. OF UET _Qualitity / 2)
259
260
        -- 33. Find the name of the customer who ordered the same item multiple times.
261 •
        SELECT DISTINCT c.Client Name

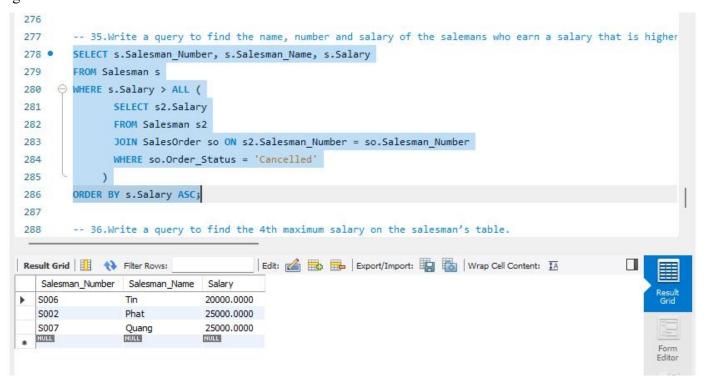
⊖ FROM (
262
             SELECT so.Client Number, sod.Product Number, COUNT(*) AS cnt
263
             FROM SalesOrder so
264
             JOIN SalesOrderDetails sod ON so.Order Number = sod.Order Number
265
             GROUP BY so.Client_Number, sod.Product_Number
266
             HAVING COUNT(*) > 1
267
              ) t
268
        JOIN Clients c ON t.Client_Number = c.Client_Number;
269
270
        -- 34.Write a query to find the name, number and salary of the salemans who earns less than
271
        SELECT Salesman_Number, Salesman_Name, Salary
272 •
        FROM Salesman
273
274
        WHERE Salary < (SELECT AVG(Salary) FROM Salesman)
        AND City = 'Thu Dau Mot';
275
Result Grid
             Filter Rows:
                                         Export: Wrap Cell Content: IA
   Client_Name
 Mai Xuan
```

34. Write a query to find the name, number and salary of the salemans who earns less than the average salary and works in any of Thu Dau Mot city.

```
269
        JOIN Clients c ON t.Client Number = c.Client Number;
270
         -- 34. Write a query to find the name, number and salary of the salemans who earns less than the average
271
        SELECT Salesman Number, Salesman Name, Salary
272 •
        FROM Salesman
273
        WHERE Salary < (SELECT AVG(Salary) FROM Salesman)
274
        AND City = 'Thu Dau Mot';
275
276
277
        -- 35. Write a query to find the name, number and salary of the salemans who earn a salary that is higher
Edit: 🍊 🖶 Export/Import: 📳 👸 Wrap Cell Content: 🛂
   Salesman_Number
                  Salesman_Name
                               Salary
  S003
                               17500.0000
                  Khoa
  S005
                 Deb
                               13500.0000
  S008
                 Hoa
                               13500.0000
  MULL
                 NULL
                               NULL
```

35. Write a query to find the name, number and salary of the salemans who earn a salary that is higher than the salary of all the salesman have (Order\_status = 'Cancelled'). Sort the results of the salary of the lowest to

highest.



36. Write a query to find the 4th maximum salary on the salesman's table.

```
287
        -- 36.Write a query to find the 4th maximum salary on the salesman's table.
288
        SELECT DISTINCT Salary
289 •
        FROM Salesman
290
        ORDER BY Salary DESC
291
        LIMIT 1 OFFSET 3;
292
293
                                     Export: Wrap Cell Content: A Fetch rows:
Salary
  16500.0000
```

37. Write a query to find the 3th minimum salary in the salesman's table.

```
293
        -- 37. Write a query to find the 3th minimum salary in the salesman's table.
294
        SELECT DISTINCT Salary
295 •
        FROM Salesman
296
        ORDER BY Salary ASC
297
        LIMIT 1 OFFSET 2;
298
299
300
                                                                             1
                                     Export: Wrap Cell Content: TA Fetch rows:
Salary
▶ 16500.0000
```