LAB01: SQL Review (Solution)

Submission:

- Submit a lab file named "int205_lab01_xxxxxxxxxxx.docx/.pdf" into the LEB2 system. xxxxxxxxxxx = your student id

Due Date & Time:

- Lecturer will inform the LAB01 due date and time in lab class.

Task 2: Using the "classicmodels" schema and write SQL statements to answer the following questions.

The Syntax of SELECT statement:
Documentation: https://dev.mysql.com/doc/refman/8.0/en/select.html

Note: The MySQL error code 1064 is a syntax error. This means the reason there's a problem is because MySQL doesn't understand what you're asking it to do.

Switch to SQL Editor

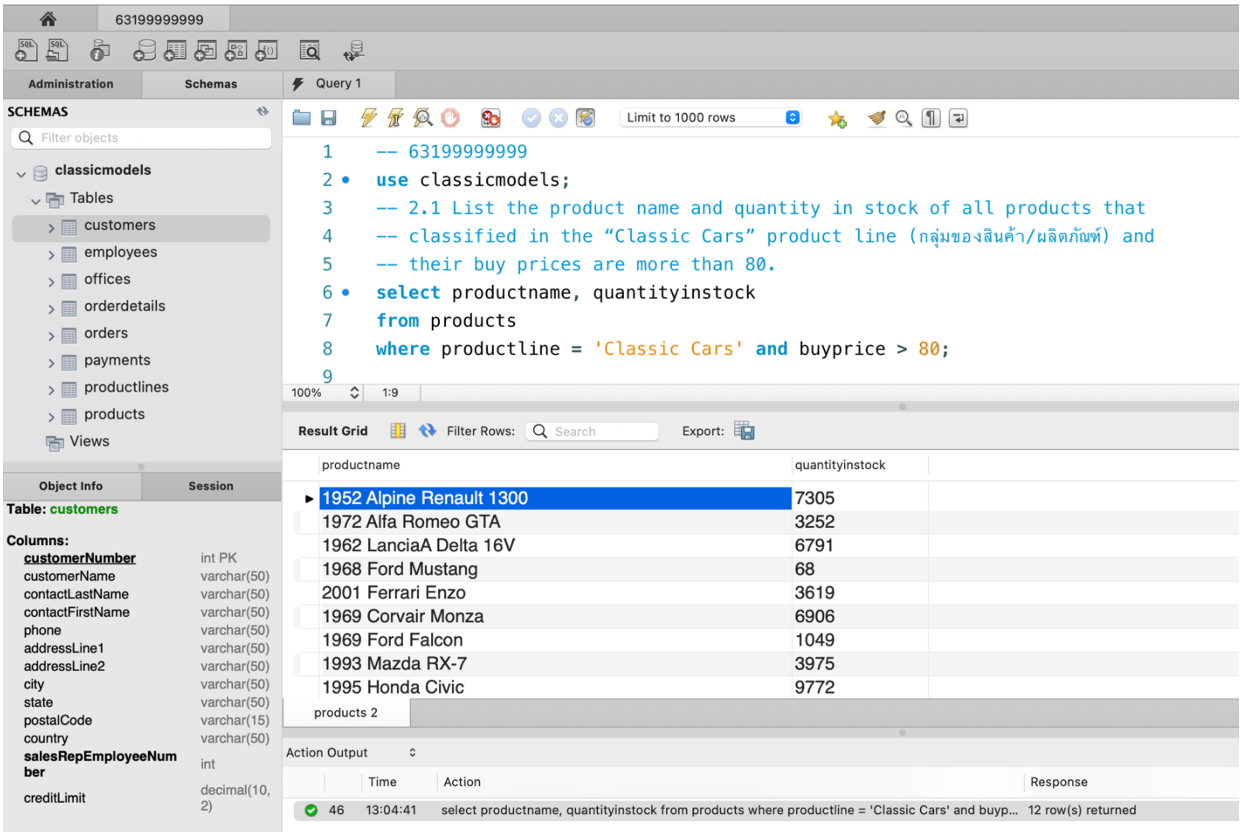
- You should specify the classicmodels database before writing SQL statements using the following command:

```
USE db_name;
USE classicmodels;
```

The USE statement tells MySQL to use the named database as the default (current) database for subsequent statements. This statement requires some privilege for the database or some object within it.

2.1 List the product name and quantity in stock of all products that classified in the “Classic Cars” product line (กลุ่มของสินค้า/ผลิตภัณฑ์) and their buy prices are more than 80.

```
select productname, quantityinstock
from products
where productline = 'Classic Cars' and buyprice > 80;
```



```
-- 63199999999
use classicmodels;
-- 2.1 List the product name and quantity in stock of all products that
-- classified in the “Classic Cars” product line (กลุ่มของสินค้า/ผลิตภัณฑ์) and
-- their buy prices are more than 80.
select productname, quantityinstock
from products
where productline = 'Classic Cars' and buyprice > 80;
```

productname	quantityinstock
1952 Alpine Renault 1300	7305
1972 Alfa Romeo GTA	3252
1962 LanciaA Delta 16V	6791
1968 Ford Mustang	68
2001 Ferrari Enzo	3619
1969 Corvair Monza	6906
1969 Ford Falcon	1049
1993 Mazda RX-7	3975
1995 Honda Civic	9772

Table: customers

Columns:

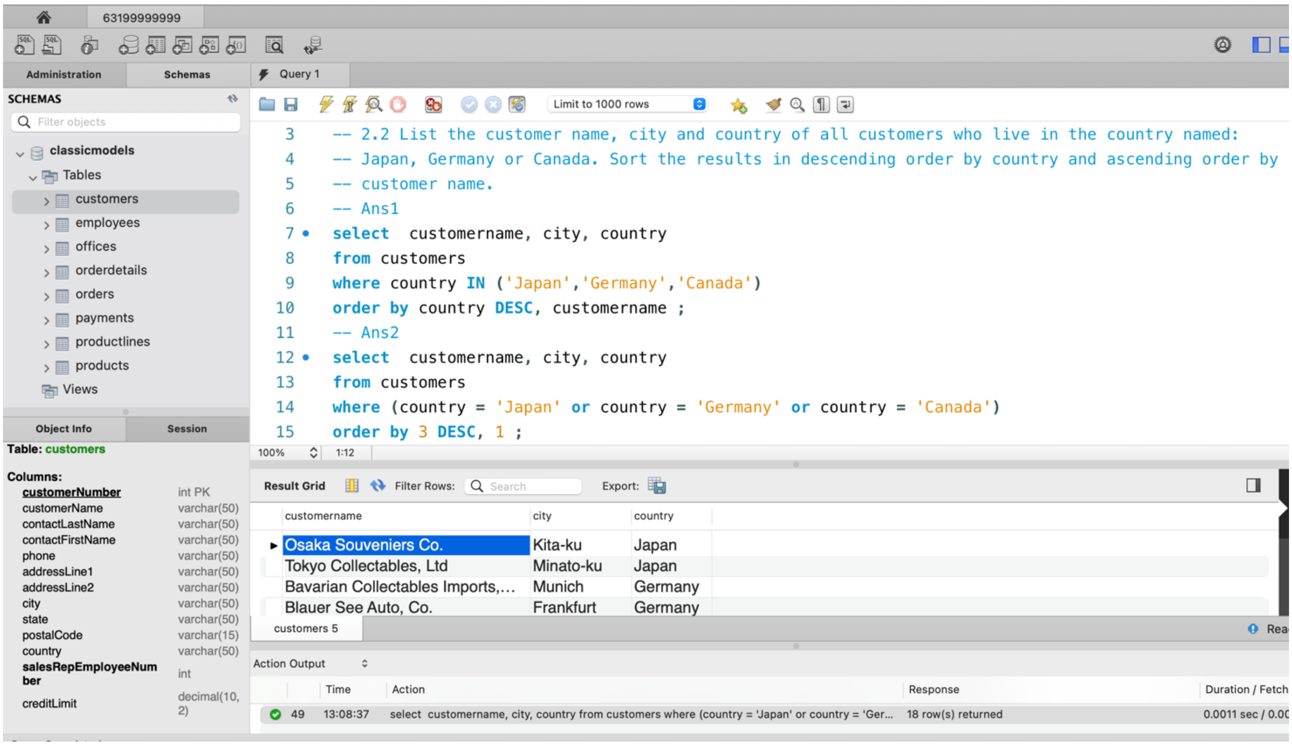
customerNumber	int PK
customerName	varchar(50)
contactLastName	varchar(50)
contactFirstName	varchar(50)
phone	varchar(50)
addressLine1	varchar(50)
addressLine2	varchar(50)
city	varchar(50)
state	varchar(50)
postalCode	varchar(15)
country	varchar(50)
salesRepEmployeeNumber	int
creditLimit	decimal(10,2)

Action Output

		Time	Action	Response
✓	46	13:04:41	select productname, quantityinstock from products where productline = 'Classic Cars' and buyp...	12 row(s) returned

2.2 List the customer name, city and country of all customers who live in the country named: Japan, Germany or Canada. Sort the results in descending order by country and ascending order by customer name.

```
-- Ans1
select  customername, city, country
from customers
where country IN ('Japan','Germany','Canada')
order by country DESC, customername ;
-- Ans2
select  customername, city, country
from customers
where (country = 'Japan' or country = 'Germany' or country = 'Canada')
order by 3 DESC, 1 ;
```



```
-- 2.2 List the customer name, city and country of all customers who live in the country named:
-- Japan, Germany or Canada. Sort the results in descending order by country and ascending order by
-- customer name.
-- Ans1
select  customername, city, country
from customers
where country IN ('Japan','Germany','Canada')
order by country DESC, customername ;
-- Ans2
select  customername, city, country
from customers
where (country = 'Japan' or country = 'Germany' or country = 'Canada')
order by 3 DESC, 1 ;
```

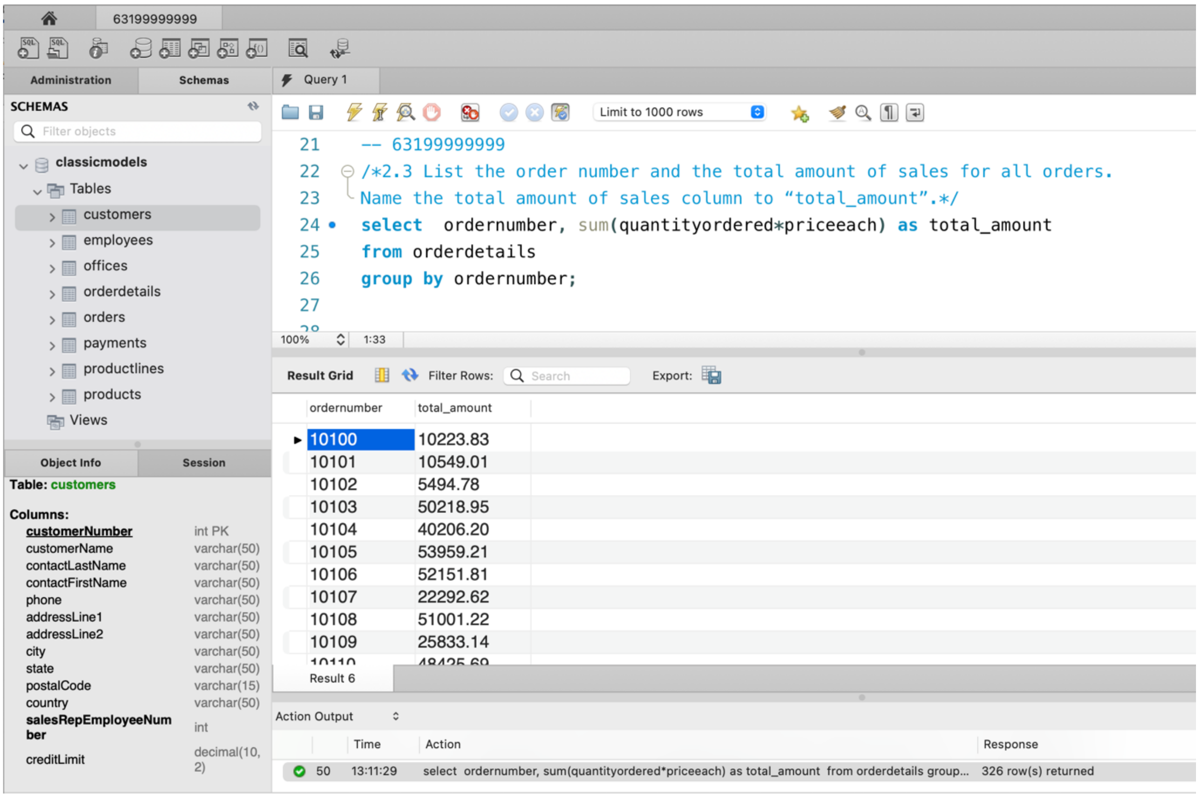
customername	city	country
Osaka Souveniers Co.	Kita-ku	Japan
Tokyo Collectables, Ltd	Minato-ku	Japan
Bavarian Collectables Imports,...	Munich	Germany
Blauer See Auto, Co.	Frankfurt	Germany

Action Output

		Time	Action	Response	Duration / Fetch
✓	49	13:08:37	select customername, city, country from customers where (country = 'Japan' or country = 'Ger...	18 row(s) returned	0.0011 sec / 0.00

2.3 List the order number and the total amount of sales for all orders. Name the total amount of sales column to "total_amount".

select ordernumber, sum(quantityordered*priceeach) as total_amount
from orderdetails
group by ordernumber;



```
-- 63199999999
/*2.3 List the order number and the total amount of sales for all orders.
Name the total amount of sales column to “total_amount”.*/
select  ordernumber, sum(quantityordered*priceeach) as total_amount
from orderdetails
group by ordernumber;
```

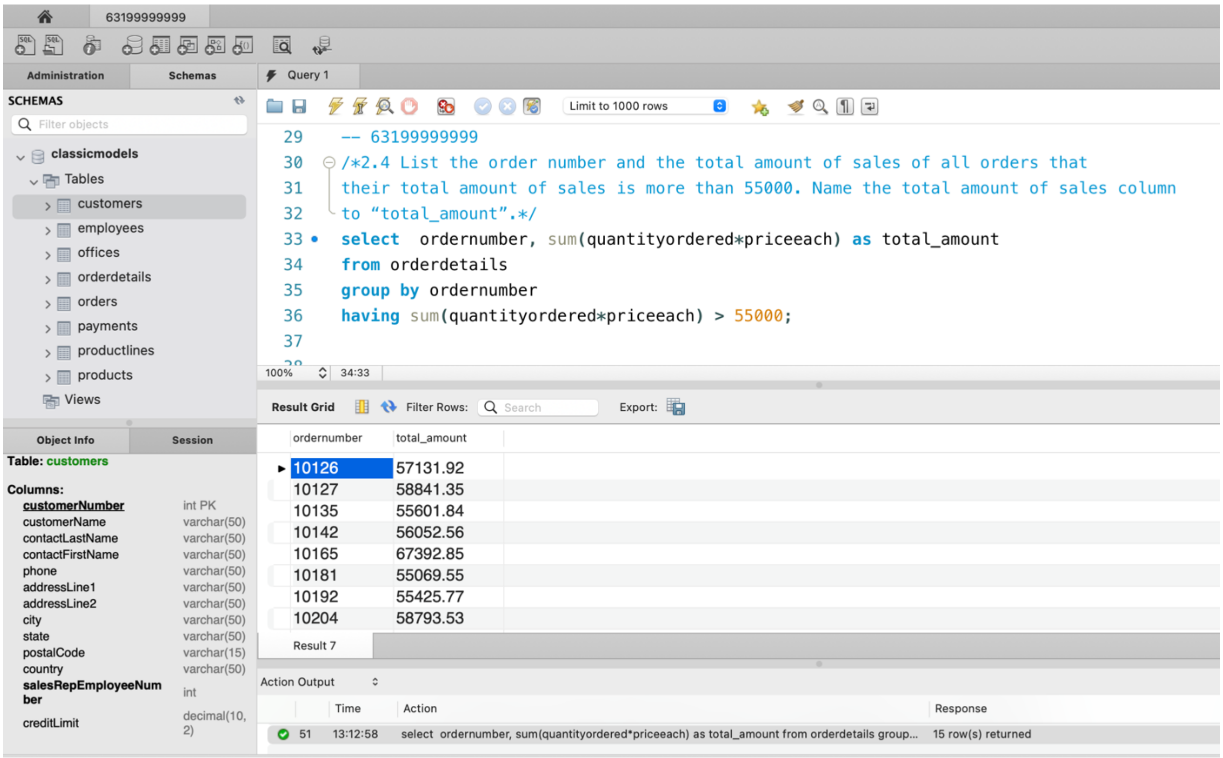
ordernumber	total_amount
10100	10223.83
10101	10549.01
10102	5494.78
10103	50218.95
10104	40206.20
10105	53959.21
10106	52151.81
10107	22292.62
10108	51001.22
10109	25833.14
10110	48425.69

Action Output

		Time	Action	Response
✓	50	13:11:29	select ordernumber, sum(quantityordered*priceeach) as total_amount from orderdetails group...	326 row(s) returned

2.4 List the order number and the total amount of sales of all orders that their total amount of sales is more than 55000. Name the total amount of sales column to “total_amount”.

select ordernumber, sum(quantityordered*priceeach) as total_amount
from orderdetails
group by ordernumber
having sum(quantityordered*priceeach) > 55000;



```
-- 63199999999
/*2.4 List the order number and the total amount of sales of all orders that
their total amount of sales is more than 55000. Name the total amount of sales column
to “total_amount”.*/
select  ordernumber, sum(quantityordered*priceeach) as total_amount
from orderdetails
group by ordernumber
having sum(quantityordered*priceeach) > 55000;
```

ordernumber	total_amount
10126	57131.92
10127	58841.35
10135	55601.84
10142	56052.56
10165	67392.85
10181	55069.55
10192	55425.77
10204	58793.53

Table: customers

Columns:

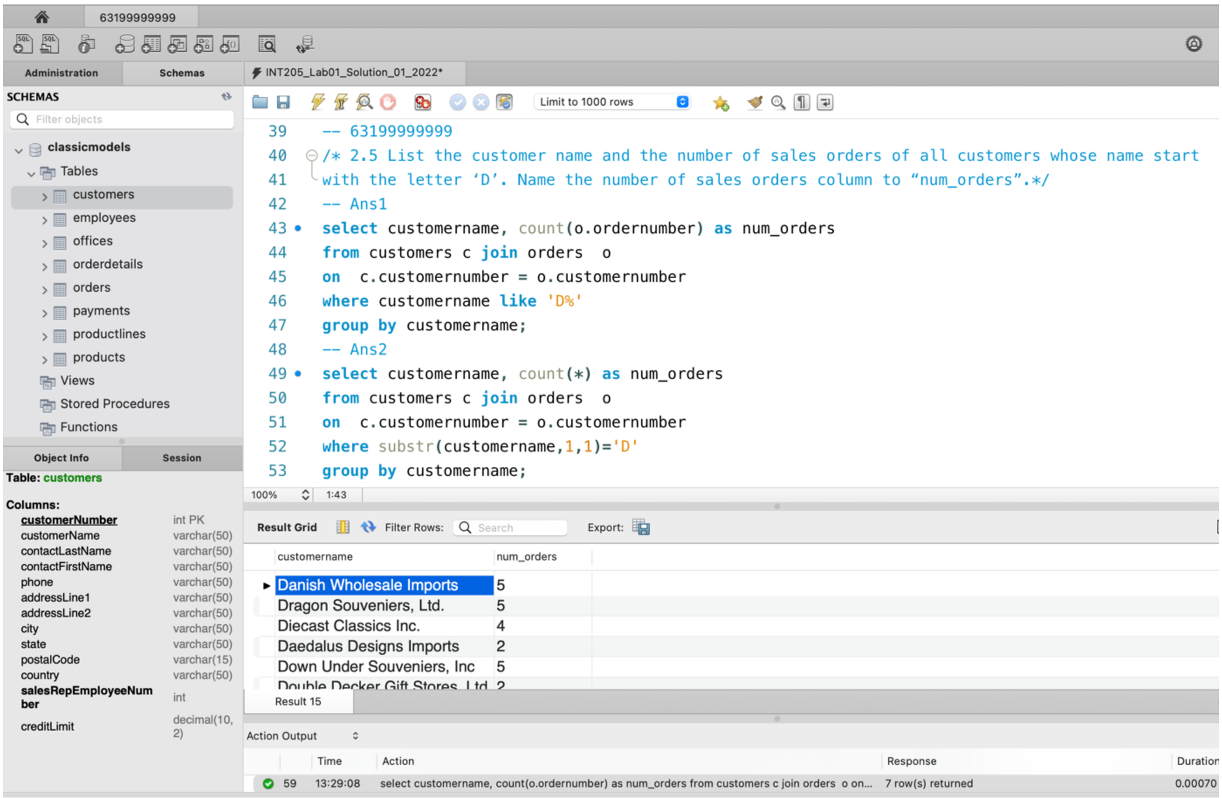
customerNumber	int PK
customerName	varchar(50)
contactLastName	varchar(50)
contactFirstName	varchar(50)
phone	varchar(50)
addressLine1	varchar(50)
addressLine2	varchar(50)
city	varchar(50)
state	varchar(50)
postalCode	varchar(15)
country	varchar(50)
salesRepEmployeeNumber	int
creditLimit	decimal(10,2)

Action Output

```
     Time      Action                                                                                  Response
✓ 51 13:12:58  select  ordernumber, sum(quantityordered*priceeach) as total_amount from orderdetails group...  15 row(s) returned
```

2.5 List the customer name and the number of sales orders of all customers whose name start with the letter ‘D’. Name the number of sales orders column to “num_orders”.

-- Ans1
select customername, count(o.ordernumber) as num_orders
from customers c join orders o
on c.customernumber = o.customernumber
where customername like 'D%'
group by customername;
-- Ans2
select customername, count(*) as num_orders
from customers c join orders o
on c.customernumber = o.customernumber
where substr(customername,1,1)='D'
group by customername;



```
-- 63199999999
/* 2.5 List the customer name and the number of sales orders of all customers whose name start
with the letter ‘D’. Name the number of sales orders column to “num_orders”.*/
-- Ans1
select customername, count(o.ordernumber) as num_orders
from customers c join orders  o
on  c.customernumber = o.customernumber
where customername like 'D%'
group by customername;
-- Ans2
select customername, count(*) as num_orders
from customers c join orders  o
on  c.customernumber = o.customernumber
where substr(customername,1,1)='D'
group by customername;
```

Table: customers

Columns:

customerNumber	int PK
customerName	varchar(50)
contactLastName	varchar(50)
contactFirstName	varchar(50)
phone	varchar(50)
addressLine1	varchar(50)
addressLine2	varchar(50)
city	varchar(50)
state	varchar(50)
postalCode	varchar(15)
country	varchar(50)
salesRepEmployeeNumber	int
creditLimit	decimal(10,2)

customername	num_orders
Danish Wholesale Imports	5
Dragon Souveniers, Ltd.	5
Diecast Classics Inc.	4
Daedalus Designs Imports	2
Down Under Souveniers, Inc	5
Double Decker Gift Stores, Ltd	2

	Time	Action	Response	Duration
59	13:29:08	select customername, count(o.ordernumber) as num_orders from customers c join orders o on...	7 row(s) returned	0.00070

2.6 List the customer name, the sales rep employee last name, and the check number of all customers who made the payment in year 2005. Name the sales rep employee last name column to “salesempname”.

```
-- Ans1
select  customername, lastname as salesempname, checknumber
from employees e join customers c
on  e.employeenumber = c.salesrepemployeenumber
join payments p
on p.customernumber = c.customernumber
where paymentdate like '%2005%';
-- Ans2
select  customername, lastname as salesempname, checknumber
from employees e, customers c, payments p
where  e.employeenumber = c.salesrepemployeenumber
and p.customernumber = c.customernumber
and extract(year from paymentdate) = 2005;
-- and substr(paymentdate,1,4)=2005 ;
```

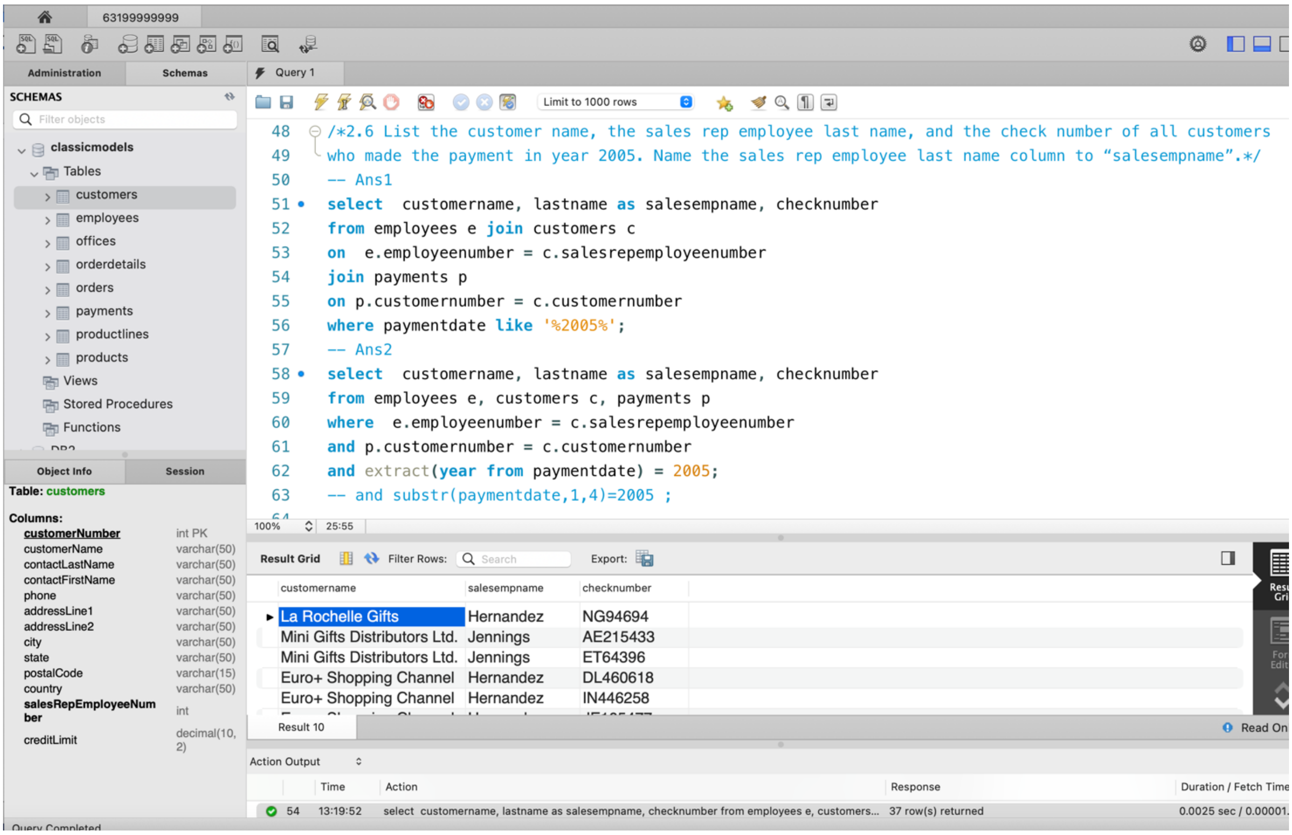


Table: customers

Columns:

customerNumber	int PK
customerName	varchar(50)
contactLastName	varchar(50)
contactFirstName	varchar(50)
phone	varchar(50)
addressLine1	varchar(50)
addressLine2	varchar(50)
city	varchar(50)
state	varchar(50)
postalCode	varchar(15)
country	varchar(50)
salesRepEmployeeNumber	int
creditLimit	decimal(10,2)

```
/*2.6 List the customer name, the sales rep employee last name, and the check number of all customers
who made the payment in year 2005. Name the sales rep employee last name column to “salesempname”.*/
-- Ans1
select  customername, lastname as salesempname, checknumber
from employees e join customers c
on  e.employeenumber = c.salesrepemployeenumber
join payments p
on p.customernumber = c.customernumber
where paymentdate like '%2005%';
-- Ans2
select  customername, lastname as salesempname, checknumber
from employees e, customers c, payments p
where  e.employeenumber = c.salesrepemployeenumber
and p.customernumber = c.customernumber
and extract(year from paymentdate) = 2005;
-- and substr(paymentdate,1,4)=2005 ;
```

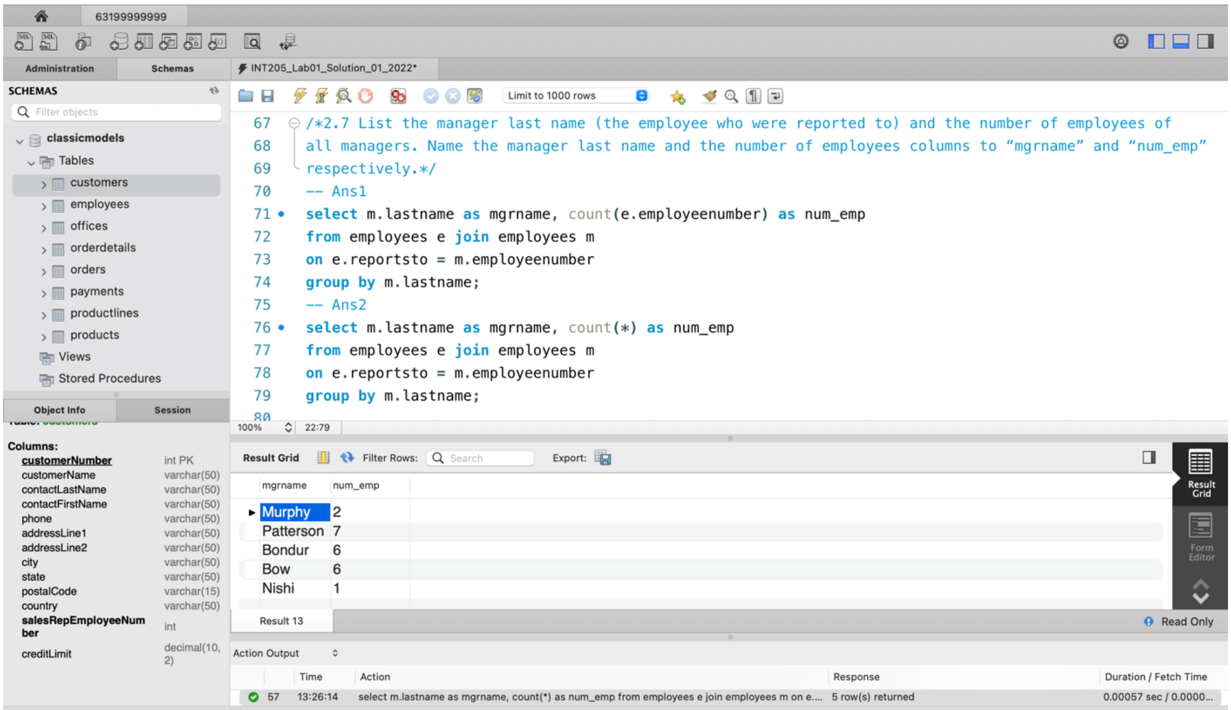
customername	salesempname	checknumber
La Rochelle Gifts	Hernandez	NG94694
Mini Gifts Distributors Ltd.	Jennings	AE215433
Mini Gifts Distributors Ltd.	Jennings	ET64396
Euro+ Shopping Channel	Hernandez	DL460618
Euro+ Shopping Channel	Hernandez	IN446258

Action Output

	Time	Action	Response	Duration / Fetch Time
54	13:19:52	select customername, lastname as salesempname, checknumber from employees e, customers...	37 row(s) returned	0.0025 sec / 0.00001.

2.7 List the manager last name (the employee who were reported to) and the number of employees of all managers. Name the manager last name and the number of employees columns to “mgrname” and “num_emp”, respectively.

```
-- Ans1
select m.lastname as mgrname, count(e.employeenumber) as num_emp
from employees e join employees m
on e.reportsto = m.employeenumber
group by m.lastname;
-- Ans2
select m.lastname as mgrname, count(*) as num_emp
from employees e join employees m
on e.reportsto = m.employeenumber
group by m.lastname;
```



```
/*2.7 List the manager last name (the employee who were reported to) and the number of employees of
all managers. Name the manager last name and the number of employees columns to “mgrname” and “num_emp”
respectively.*/
-- Ans1
select m.lastname as mgrname, count(e.employeenumber) as num_emp
from employees e join employees m
on e.reportsto = m.employeenumber
group by m.lastname;
-- Ans2
select m.lastname as mgrname, count(*) as num_emp
from employees e join employees m
on e.reportsto = m.employeenumber
group by m.lastname;
```

Columns:

customerNumber	int PK
customerName	varchar(50)
contactLastName	varchar(50)
contactFirstName	varchar(50)
phone	varchar(50)
addressLine1	varchar(50)
addressLine2	varchar(50)
city	varchar(50)
state	varchar(50)
postalCode	varchar(15)
country	varchar(50)
salesRepEmployeeNumber	int
creditLimit	decimal(10, 2)

mgrname	num_emp
Murphy	2
Patterson	7
Bondur	6
Bow	6
Nishi	1

	Time	Action	Response	Duration / Fetch Time
✓ 57	13:26:14	select m.lastname as mgrname, count(*) as num_emp from employees e join employees m on e....	5 row(s) returned	0.00057 sec / 0.0000...

2.8 Create your own question and the answered SQL statement should have SELECT, FROM, WHERE, GROUP BY and HAVING clauses.

-- Please write your question in English or Thai.

List the customer name and the number of sales orders of all customers who live in the country named USA and the number of sales orders is greater than 10. Name the number of sales orders column to “num_orders”.

```
select customername, count(ordernumber) as num_orders
from customers c join orders  o
on  c.customernumber = o.customernumber
where country = 'USA'
group by customername
having  count(ordernumber) > 10;
```

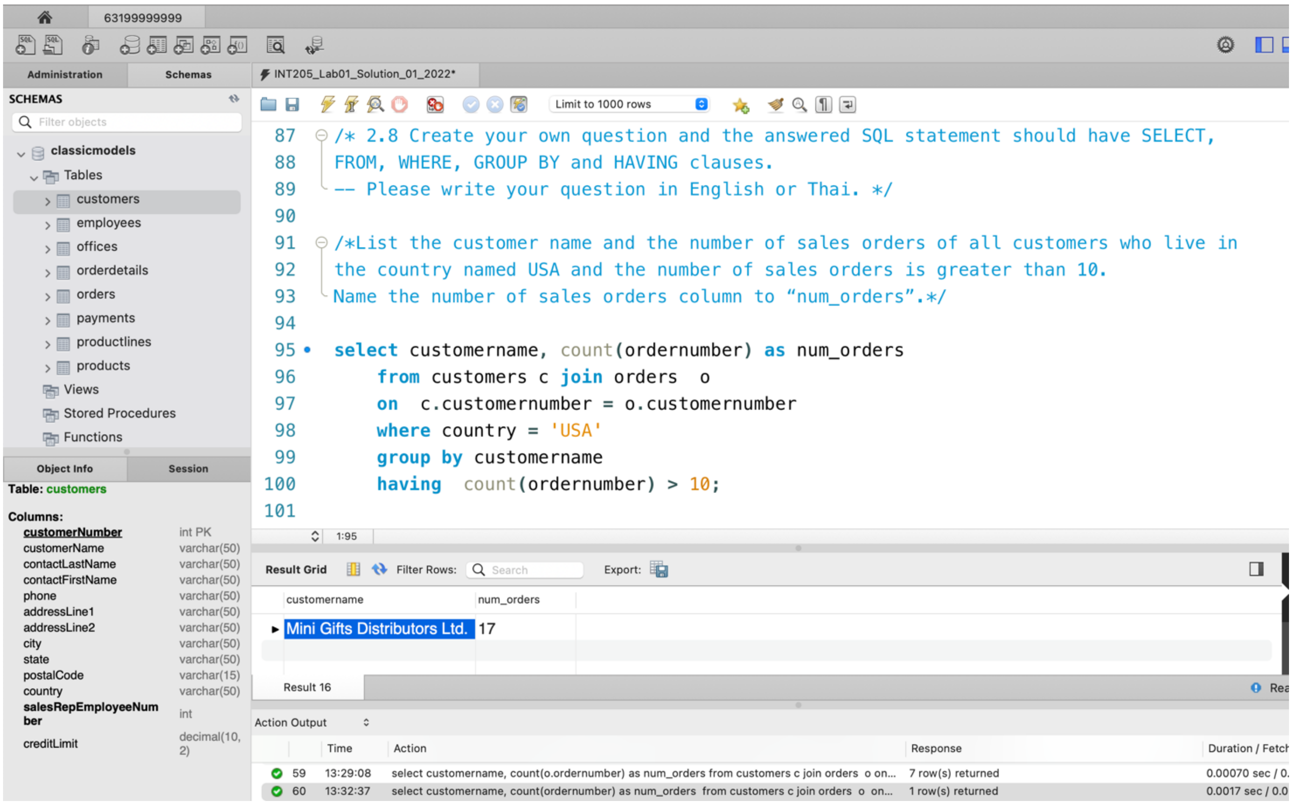


Table: customers

Columns:

customerNumber	int PK
customerName	varchar(50)
contactLastName	varchar(50)
contactFirstName	varchar(50)
phone	varchar(50)
addressLine1	varchar(50)
addressLine2	varchar(50)
city	varchar(50)
state	varchar(50)
postalCode	varchar(15)
country	varchar(50)
salesRepEmployeeNumber	int
creditLimit	decimal(10,2)

```
/* 2.8 Create your own question and the answered SQL statement should have SELECT,
FROM, WHERE, GROUP BY and HAVING clauses.
-- Please write your question in English or Thai. */

/*List the customer name and the number of sales orders of all customers who live in
the country named USA and the number of sales orders is greater than 10.
Name the number of sales orders column to “num_orders”.*/

select customername, count(ordernumber) as num_orders
    from customers c join orders  o
    on  c.customernumber = o.customernumber
    where country = 'USA'
    group by customername
    having  count(ordernumber) > 10;

```

customername	num_orders
Mini Gifts Distributors Ltd.	17

Action Output

	Time	Action	Response	Duration / Fetch
59	13:29:08	select customername, count(o.ordernumber) as num_orders from customers c join orders o on...	7 row(s) returned	0.00070 sec / 0.
60	13:32:37	select customername, count(ordernumber) as num_orders from customers c join orders o on...	1 row(s) returned	0.0017 sec / 0.0

2.9 Create your own question and the answered SQL statement should have SELECT, FROM 3 tables, WHERE and ORDER BY clauses.

-- Please write your question in English or Thai.

List the product name, price and ordered quantity of the order number 10124. Sort the results in ascending order by product name.

```
-- Ans1
select productname,  priceeach, quantityordered
from products p join orderdetails od
on p.productcode = od.productcode
join orders o
on od.ordernumber = o.ordernumber
where o.ordernumber = 10124
order by productname;
-- Ans2
select productname,  priceeach, quantityordered
from products p, orderdetails od, orders o
where p.productcode = od.productcode
and od.ordernumber = o.ordernumber
and o.ordernumber = 10124
order by 1;
```

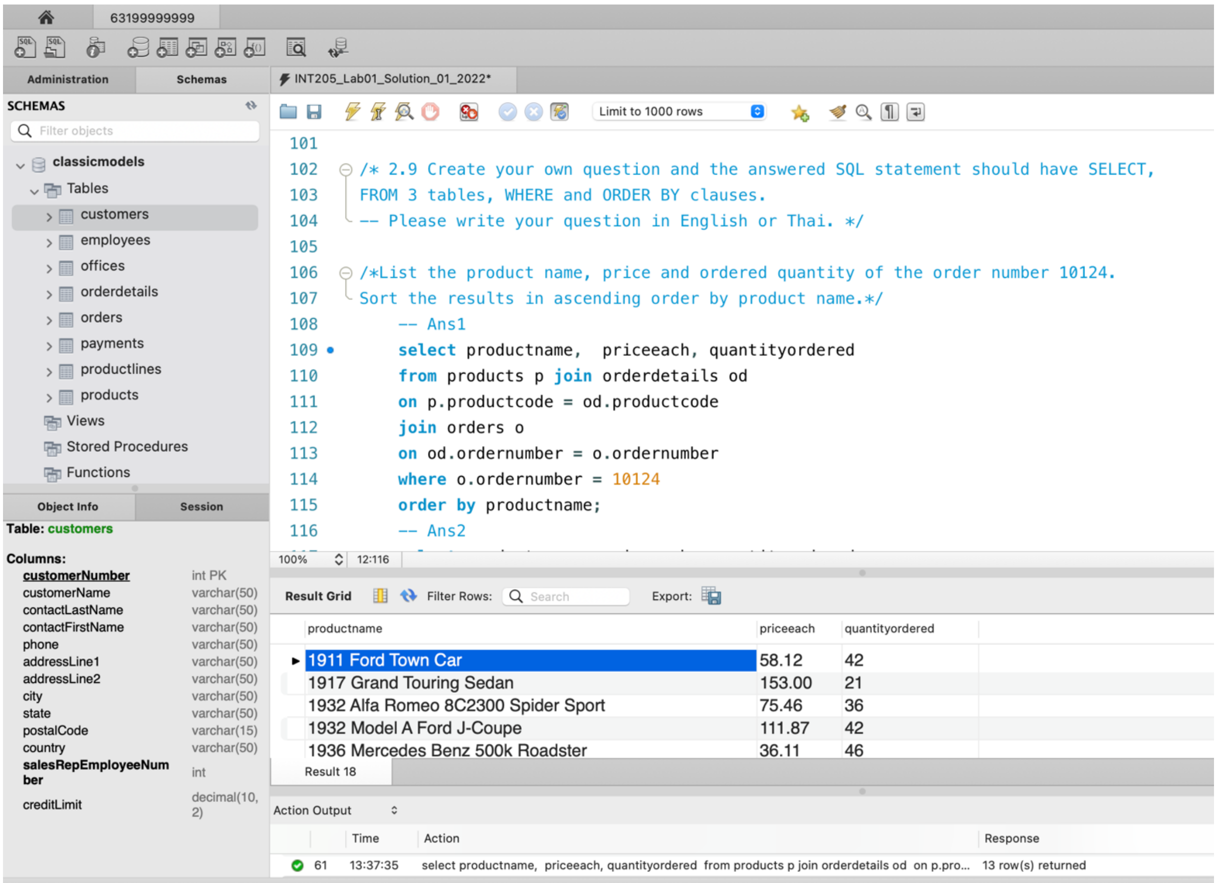


Table: customers

Columns:

customerNumber	int PK
customerName	varchar(50)
contactLastName	varchar(50)
contactFirstName	varchar(50)
phone	varchar(50)
addressLine1	varchar(50)
addressLine2	varchar(50)
city	varchar(50)
state	varchar(50)
postalCode	varchar(15)
country	varchar(50)
salesRepEmployeeNumber	int
creditLimit	decimal(10, 2)

```
/* 2.9 Create your own question and the answered SQL statement should have SELECT,
FROM 3 tables, WHERE and ORDER BY clauses.
-- Please write your question in English or Thai. */

/*List the product name, price and ordered quantity of the order number 10124.
Sort the results in ascending order by product name.*/
    -- Ans1
    select productname,  priceeach, quantityordered
    from products p join orderdetails od
    on p.productcode = od.productcode
    join orders o
    on od.ordernumber = o.ordernumber
    where o.ordernumber = 10124
    order by productname;
    -- Ans2
```

productname	priceeach	quantityordered
1911 Ford Town Car	58.12	42
1917 Grand Touring Sedan	153.00	21
1932 Alfa Romeo 8C2300 Spider Sport	75.46	36
1932 Model A Ford J-Coupe	111.87	42
1936 Mercedes Benz 500k Roadster	36.11	46

	Time	Action	Response
61	13:37:35	select productname, priceeach, quantityordered from products p join orderdetails od on p.pro...	13 row(s) returned

2.10 Create your own question and the answered SQL statement should have SELECT, FROM 3 tables, WHERE, GROUP BY, HAVING and ORDER BY clauses.
-- Please write your question in English or Thai.

List the product name and the total ordered quantity of all products that were ordered in January and their total ordered quantities are greater than 100.Sort the results in descending order by the total ordered quantity.

```
select productname,  sum(quantityordered) as total_quantity_ordered
from products p, orderdetails od, orders o
where p.productcode = od.productcode
and od.ordernumber = o.ordernumber
and extract(month from o.orderdate) = 01
group by productname
having sum(quantityordered) > 100
order by 2 desc;
```

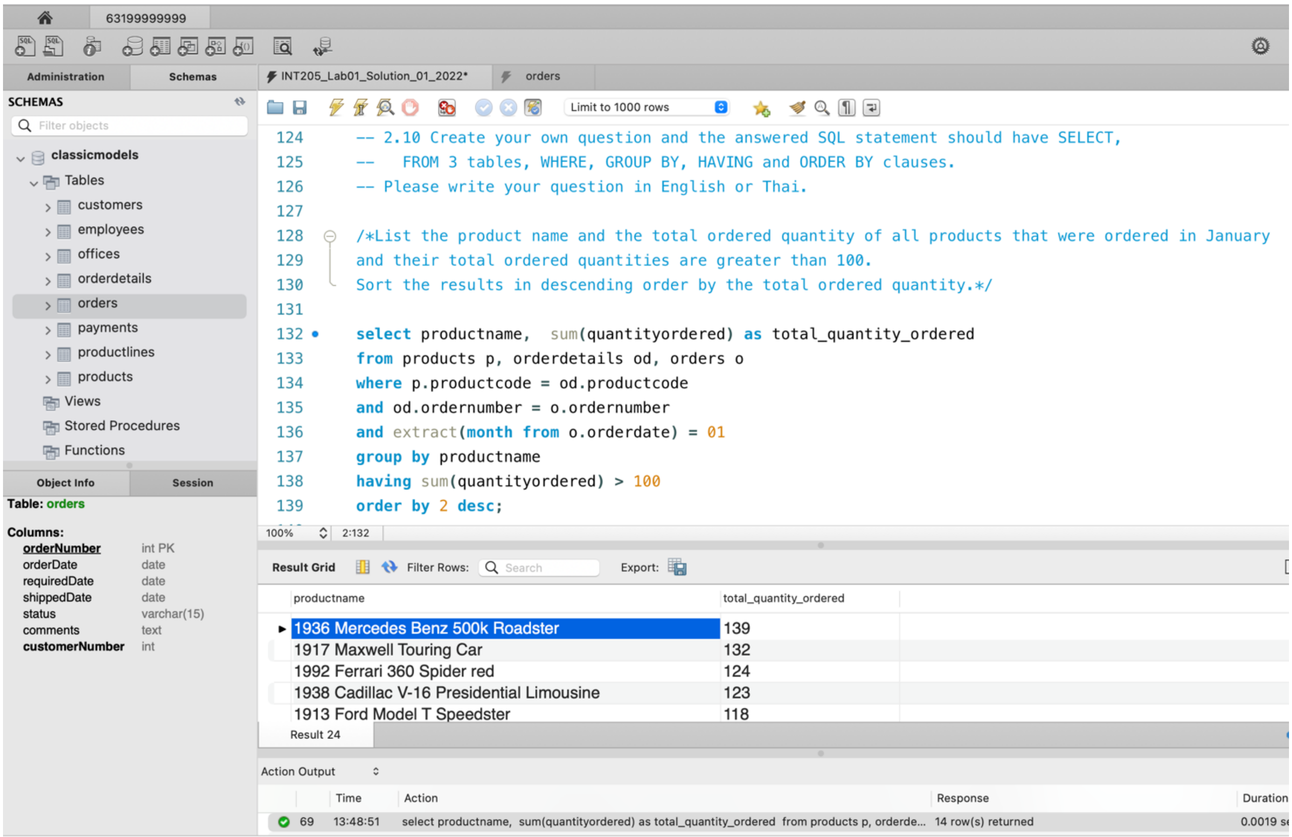


Table: orders

Columns:

orderNumber	int PK
orderDate	date
requiredDate	date
shippedDate	date
status	varchar(15)
comments	text
customerNumber	int

```
-- 2.10 Create your own question and the answered SQL statement should have SELECT,
--   FROM 3 tables, WHERE, GROUP BY, HAVING and ORDER BY clauses.
-- Please write your question in English or Thai.

/*List the product name and the total ordered quantity of all products that were ordered in January
and their total ordered quantities are greater than 100.
Sort the results in descending order by the total ordered quantity.*/

select productname,  sum(quantityordered) as total_quantity_ordered
from products p, orderdetails od, orders o
where p.productcode = od.productcode
and od.ordernumber = o.ordernumber
and extract(month from o.orderdate) = 01
group by productname
having sum(quantityordered) > 100
order by 2 desc;
```

productname	total_quantity_ordered
1936 Mercedes Benz 500k Roadster	139
1917 Maxwell Touring Car	132
1992 Ferrari 360 Spider red	124
1938 Cadillac V-16 Presidential Limousine	123
1913 Ford Model T Speedster	118

```
    Time      Action                                                                       Response              Duration
69  13:48:51  select productname,  sum(quantityordered) as total_quantity_ordered  from products p, orderde...  14 row(s) returned  0.0019 se
```