

Superstore Sales Analysis Project.

Objective of the project:





Superstore Sales Analysis Project aims to explore and analyse the orders given by customers. The Superstore Data Analysis Project focuses on extracting insights from a retail superstore dataset. The dataset contains information about sales, customers, products, and orders from a fictional retail superstore.

By analyzing this data, we aim to uncover trends, patterns, and insights that can be used to improve business operations and decision-making.

- How many characters are there in the customer_name field of the customer table?

```
select customer_name, length(customer_name) as length from customer;
```

Result:

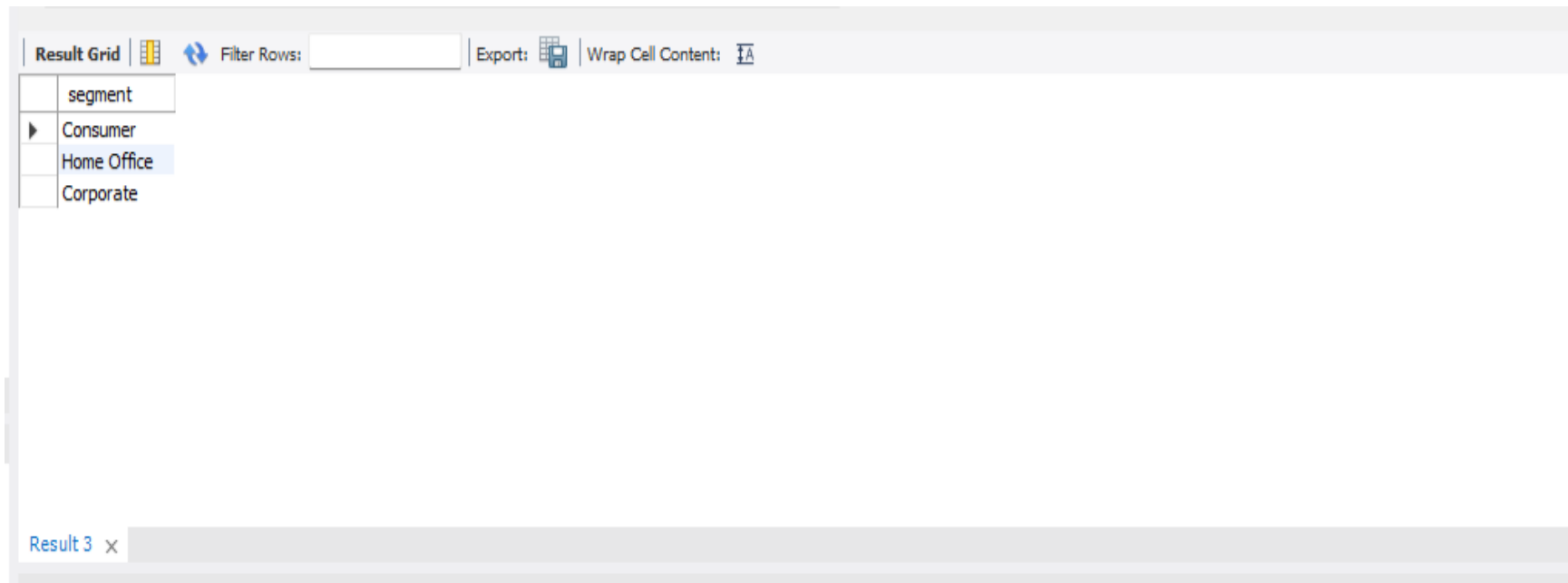
Result Grid   Filter Rows: <input type="text"/> Export:  Wrap Cell Content: 		
	customer_name	length
▶	Alex Avila	10
	Allen Arnold	12
	Andrew Allen	12
	Anna Andreadi	13
	Aaron Bergman	13
	Adam Bellavance	15
	Adrian Barton	13
	Aimee Bixby	11
	Alan Barnes	11
	Alejandro Ballentine	20
	Ann Blume	9
	Alvssa Crouse	13

Result 1 x

- Can you list all unique segments present in the customer table?

```
select DISTINCT(segment) from customer;
```

Result:





The screenshot shows a database query result window titled "Result 3". The window has a toolbar with options: "Result Grid" (selected), "Filter Rows:", "Export:", and "Wrap Cell Content:". Below the toolbar, a table displays the results of the query. The table has one column labeled "segment" and three rows of data: "Consumer", "Home Office", and "Corporate". The "Home Office" row is currently selected.

segment
Consumer
Home Office
Corporate

- Show the customer_name and city in uppercase for all customers?

```
select upper(customer_name),upper(city) from customer;
```

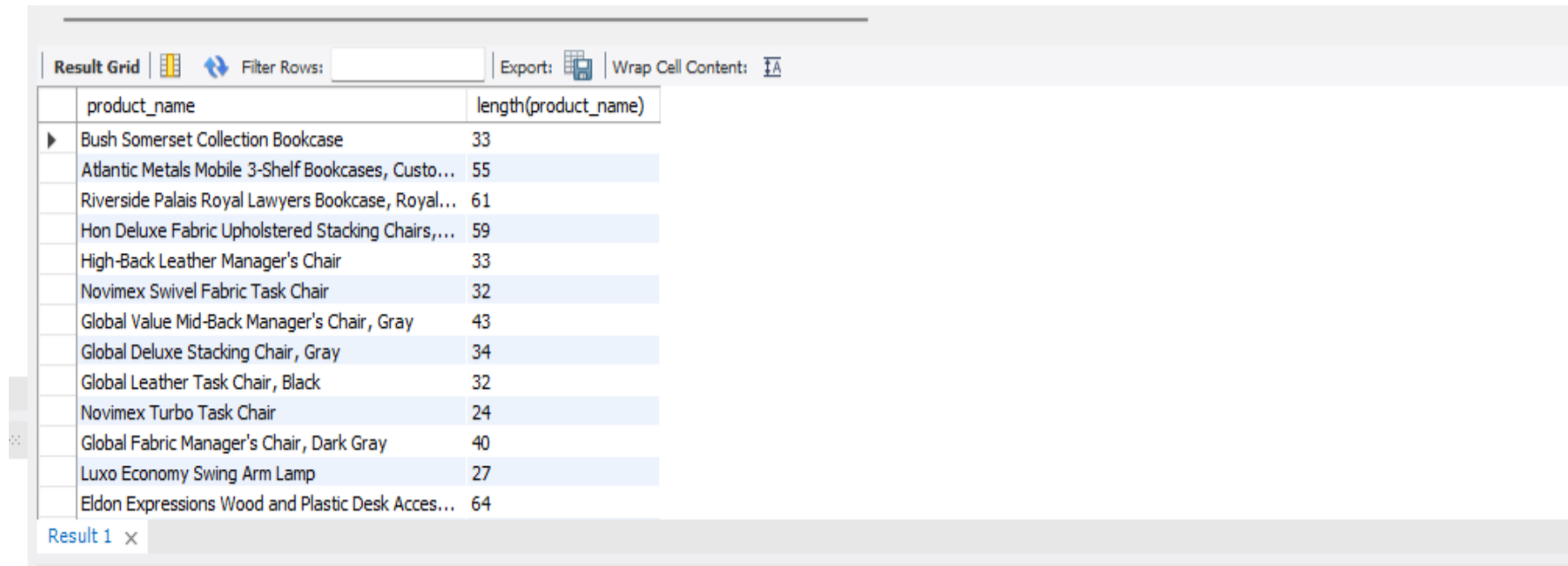
Result:

Result Grid		
Filter Rows: <input type="text"/>		
Export:  Wrap Cell Content: 		
	upper(customer_name)	upper(city)
▶	ALEX AVILA	MINNEAPOLIS
	ALLEN ARMOLD	MESA
	ANDREW ALLEN	CONCORD
	ANNA ANDREADI	CHESTER
	AARON BERGMAN	SEATTLE
	ADAM BELLAVANCE	NEW YORK CITY
	ADRIAN BARTON	PHOENIX
	AIMEE BIXBY	LONG BEACH
	ALAN BARNES	LOS ANGELES
	ALEJANDRO BALLENTINE	LORAIN
	ANN BLUME	TUCSON
	ALYSSA CROUSE	SAN FRANCISCO
	AMY COX	MINNEAPOLIS

Result 2 x

- Display the length of each product_name in the product table.
select product_name,length(product_name) from product;

Result:

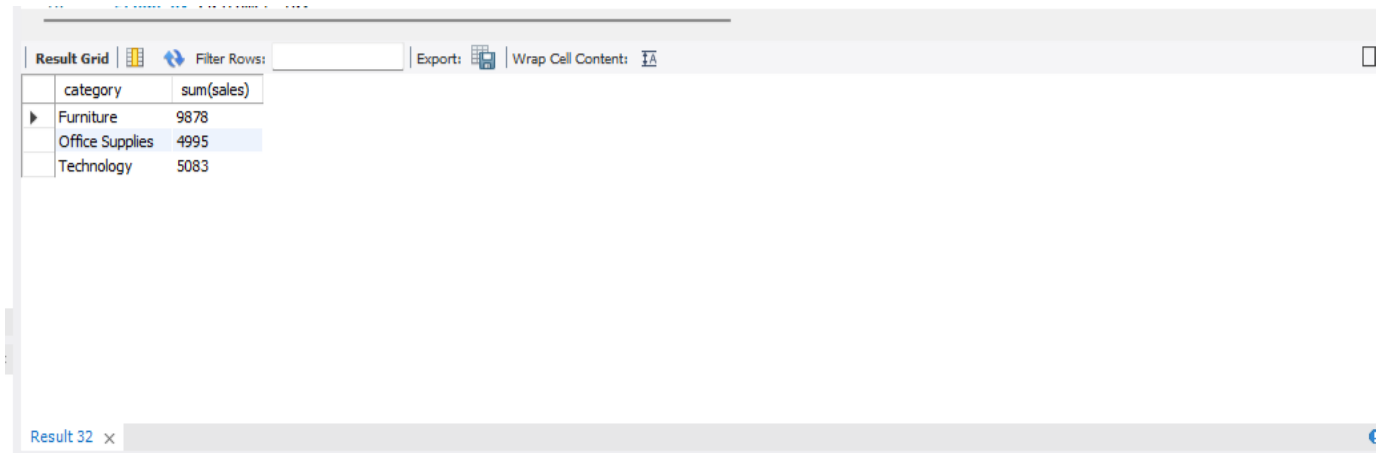


The screenshot shows a database query result grid. At the top, there is a toolbar with 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content' options. Below the toolbar is a table with two columns: 'product_name' and 'length(product_name)'. The table contains 15 rows of data, each representing a product and its name length. The first row is highlighted with a blue arrow icon in the left margin. The last row is truncated with an ellipsis. At the bottom left, there is a tab labeled 'Result 1' with a close button.

product_name	length(product_name)
Bush Somerset Collection Bookcase	33
Atlantic Metals Mobile 3-Shelf Bookcases, Custo...	55
Riverside Palais Royal Lawyers Bookcase, Royal...	61
Hon Deluxe Fabric Upholstered Stacking Chairs,...	59
High-Back Leather Manager's Chair	33
Novimex Swivel Fabric Task Chair	32
Global Value Mid-Back Manager's Chair, Gray	43
Global Deluxe Stacking Chair, Gray	34
Global Leather Task Chair, Black	32
Novimex Turbo Task Chair	24
Global Fabric Manager's Chair, Dark Gray	40
Luxo Economy Swing Arm Lamp	27
Eldon Expressions Wood and Plastic Desk Acces...	64

- What is the total sales revenue for each category in the product table?
select category,sum(sales) from product
group by category;

Result:



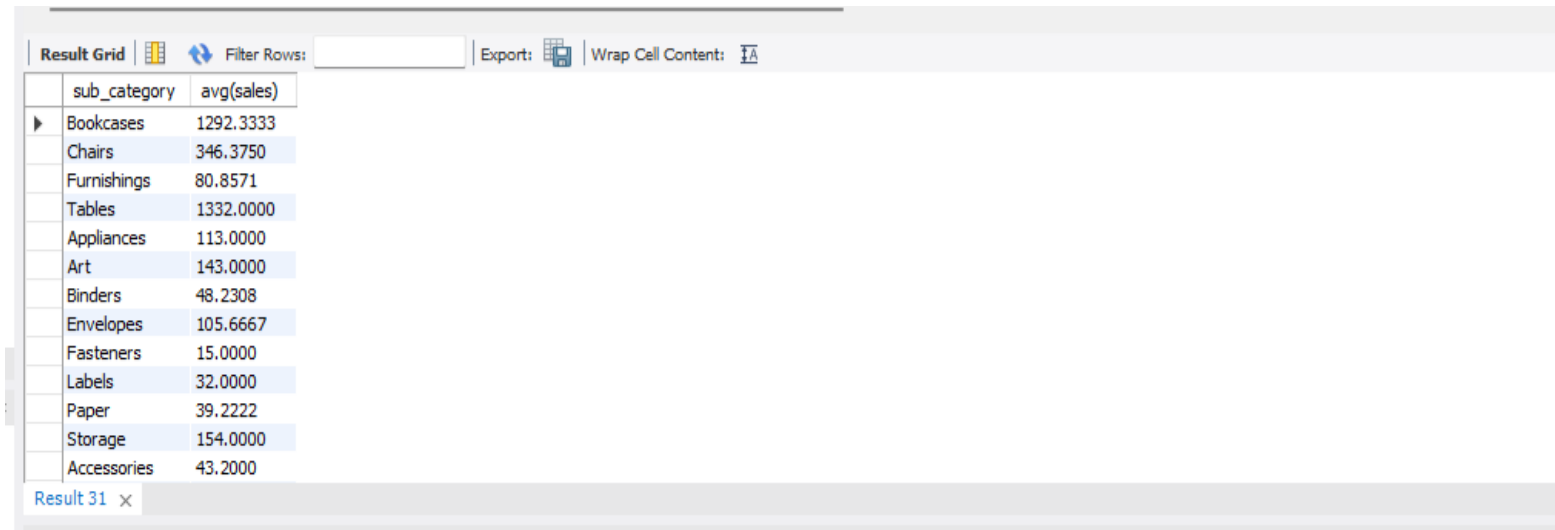
The screenshot shows a SQL query result grid with the following data:

category	sum(sales)
Furniture	9878
Office Supplies	4995
Technology	5083

The interface includes a toolbar with options like 'Filter Rows', 'Export', and 'Wrap Cell Content'. The bottom of the window shows a tab labeled 'Result 32'.

- Calculate the average sales per product in the product table.
select sub_category, avg(sales) from product
group by sub_category;

Result:

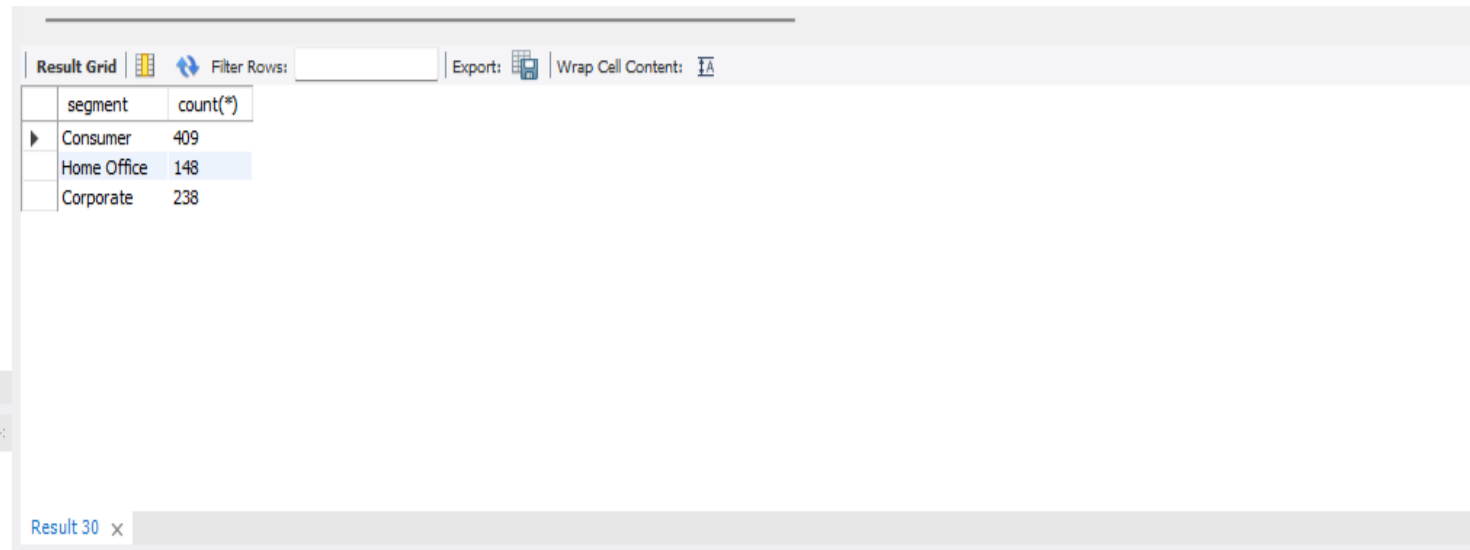


The screenshot shows a database query result grid. At the top, there is a toolbar with 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content' options. Below the toolbar is a table with two columns: 'sub_category' and 'avg(sales)'. The table contains 15 rows of data, with alternating light blue and white background colors for each row. At the bottom left, there is a tab labeled 'Result 31' with a close button 'x'.

sub_category	avg(sales)
Bookcases	1292.3333
Chairs	346.3750
Furnishings	80.8571
Tables	1332.0000
Appliances	113.0000
Art	143.0000
Binders	48.2308
Envelopes	105.6667
Fasteners	15.0000
Labels	32.0000
Paper	39.2222
Storage	154.0000
Accessories	43.2000

- How many customers are there in each segment?
select segment, count(*) from customer
group by segment;

Result:



The screenshot shows a SQL query result grid with a toolbar at the top. The toolbar includes a 'Result Grid' icon, a 'Filter Rows' button, an 'Export' button, and a 'Wrap Cell Content' button. The query results are displayed in a table with two columns: 'segment' and 'count(*)'. The table contains three rows: 'Consumer' with a count of 409, 'Home Office' with a count of 148, and 'Corporate' with a count of 238. The 'Home Office' row is highlighted. At the bottom left, there is a tab labeled 'Result 30' with a close button.

segment	count(*)
Consumer	409
Home Office	148
Corporate	238

- Find the maximum postal code in the customer table?
`select max(postal_code) from customer;`
-

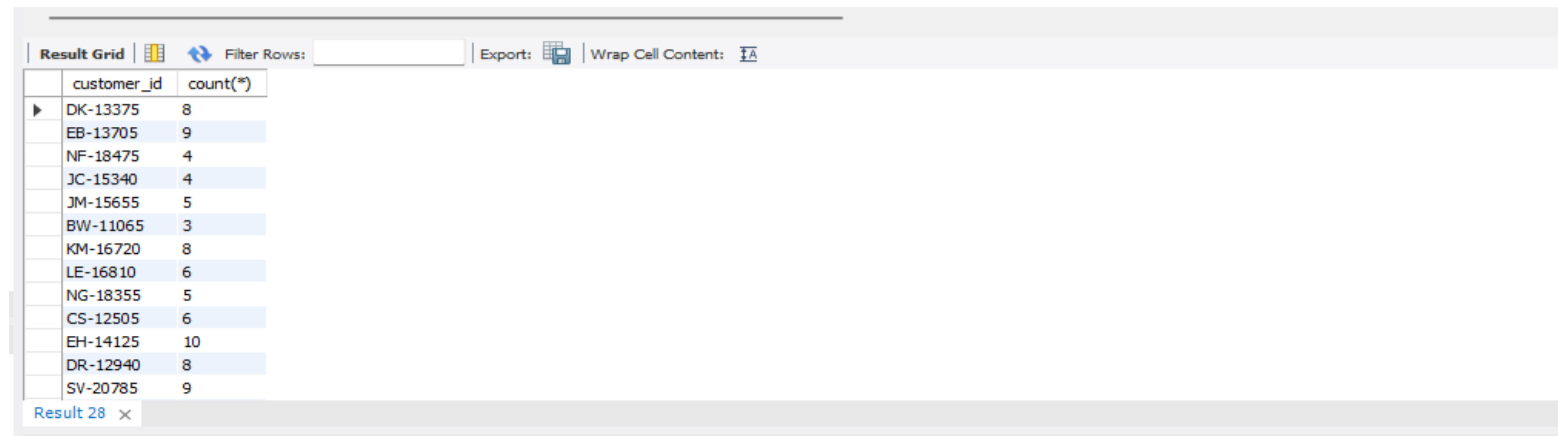
Result:

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
	max(postal_code)		
▶	99207		

Result 29 x

- What is the total number of orders placed by each customer?
select customer_id,count(*) from orders
group by customer_id;

Result:



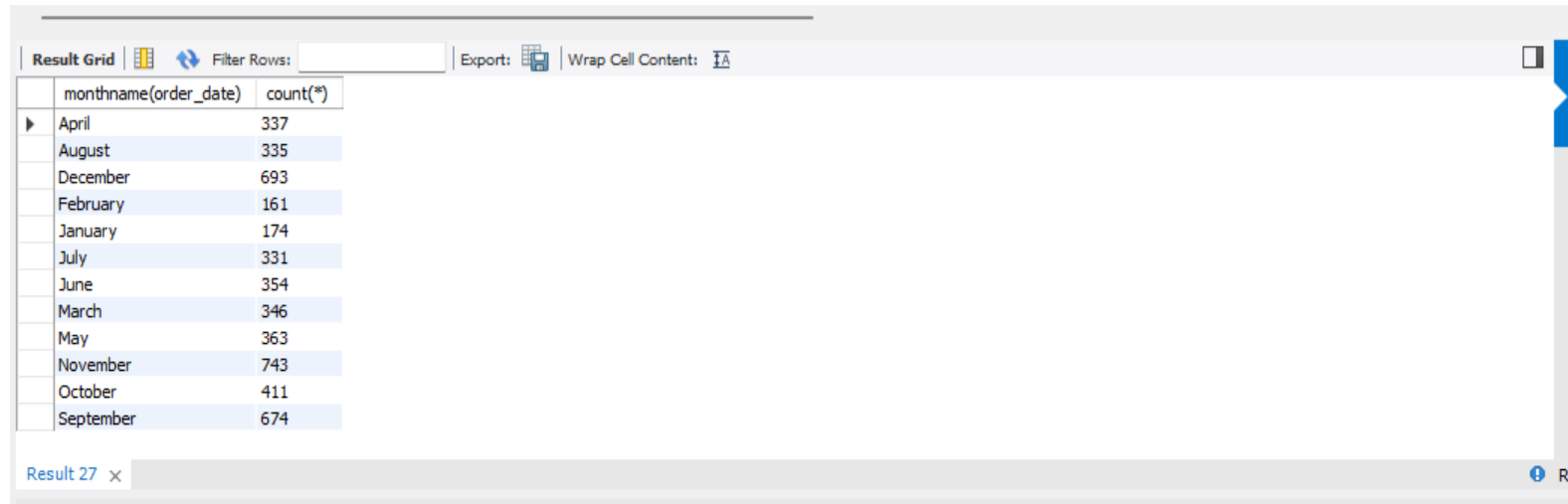
The screenshot shows a database query result grid. At the top, there is a toolbar with 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content' options. Below the toolbar is a table with two columns: 'customer_id' and 'count(*)'. The table contains 15 rows of data, each representing a customer and the number of orders they placed. The data is as follows:

customer_id	count(*)
DK-13375	8
EB-13705	9
NF-18475	4
JC-15340	4
JM-15655	5
BW-11065	3
KM-16720	8
LE-16810	6
NG-18355	5
CS-12505	6
EH-14125	10
DR-12940	8
SV-20785	9

At the bottom left of the grid, there is a tab labeled 'Result 28' with a close button (X).

- How many orders were placed in each month of the year?
select monthname(order_date),count(*) from orders
group by monthname(order_date)
order by monthname(order_date);

Result:



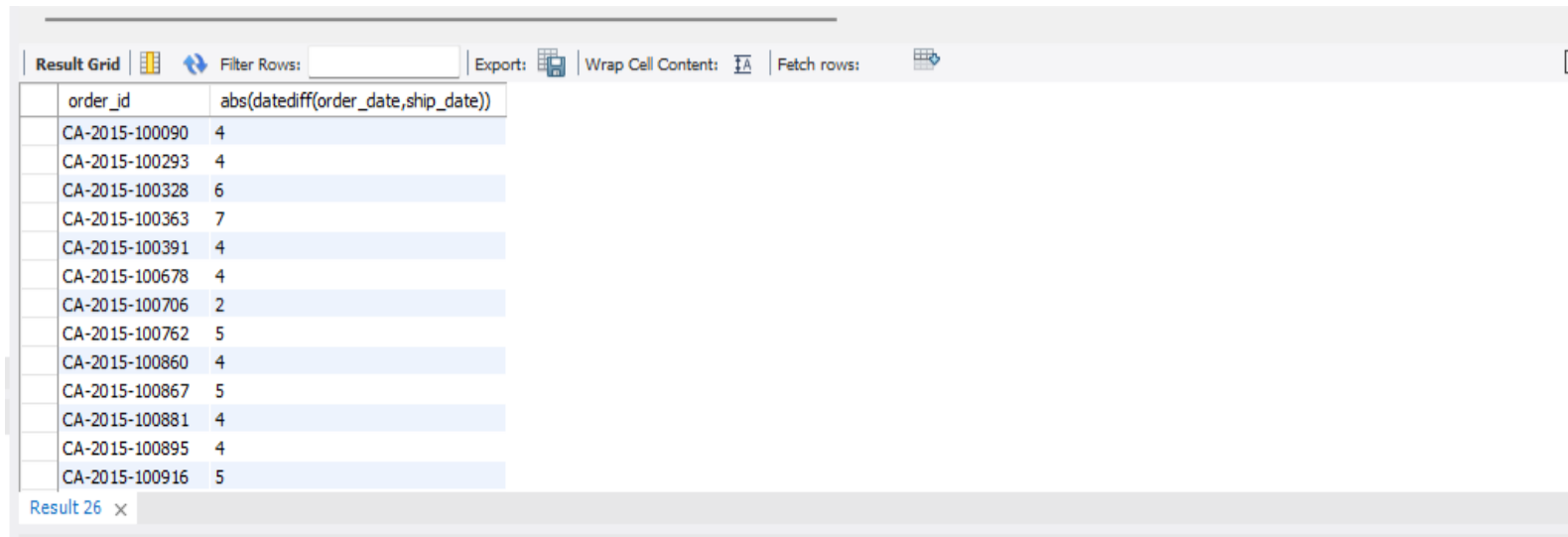
The screenshot shows a SQL query result grid with the following data:

monthname(order_date)	count(*)
April	337
August	335
December	693
February	161
January	174
July	331
June	354
March	346
May	363
November	743
October	411
September	674

The interface includes a toolbar with options like 'Filter Rows', 'Export', and 'Wrap Cell Content'. The result is displayed in a tab labeled 'Result 27'.

- Calculate the difference between order_date and ship_date for each order?
`select order_id, abs(datediff(order_date,ship_date)) from orders;`

Result:



The screenshot shows a database query result grid with the following data:

order_id	abs(datediff(order_date,ship_date))
CA-2015-100090	4
CA-2015-100293	4
CA-2015-100328	6
CA-2015-100363	7
CA-2015-100391	4
CA-2015-100678	4
CA-2015-100706	2
CA-2015-100762	5
CA-2015-100860	4
CA-2015-100867	5
CA-2015-100881	4
CA-2015-100895	4
CA-2015-100916	5

The interface includes a toolbar with options like 'Filter Rows', 'Export', 'Wrap Cell Content', and 'Fetch rows'. The bottom status bar shows 'Result 26'.

- Find the latest order date.?
`select max(order_date) from orders;`
-

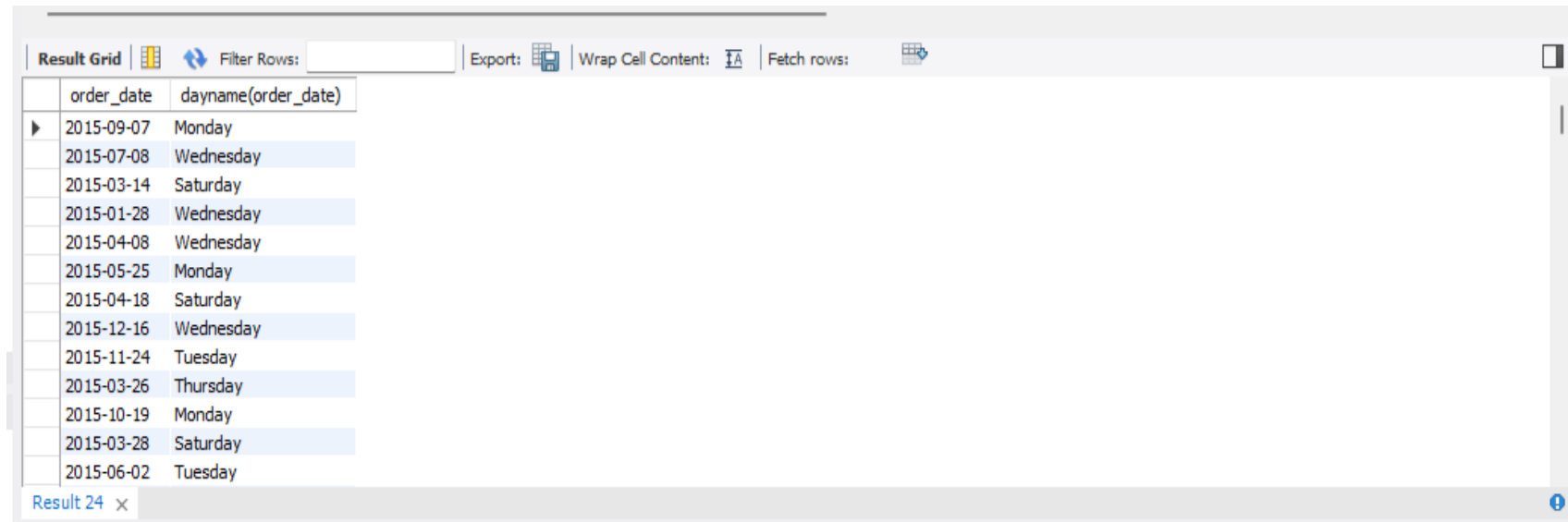
Result:

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	max(order_date)			
▶	2018-12-30			

Result 25 x

- Determine the day of the week for each order_date.
select order_date,dayname(order_date) from orders;

Result:

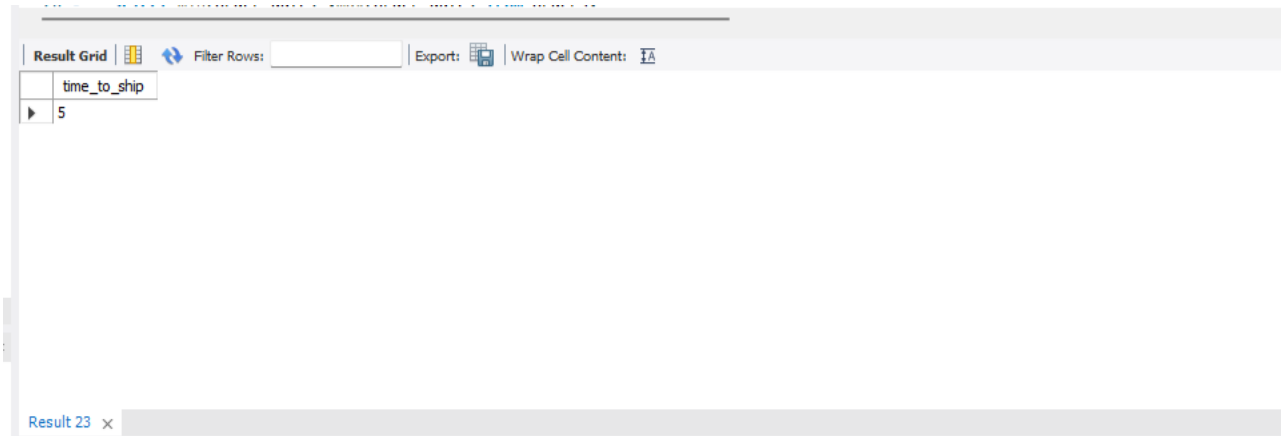


The screenshot shows a database query result grid with a toolbar at the top. The toolbar includes a 'Result Grid' tab, a 'Filter Rows' input field, an 'Export' button, a 'Wrap Cell Content' button, and a 'Fetch rows' button. The table has two columns: 'order_date' and 'dayname(order_date)'. There are 14 rows of data, each with a date and a day name. The rows are: 2015-09-07 (Monday), 2015-07-08 (Wednesday), 2015-03-14 (Saturday), 2015-01-28 (Wednesday), 2015-04-08 (Wednesday), 2015-05-25 (Monday), 2015-04-18 (Saturday), 2015-12-16 (Wednesday), 2015-11-24 (Tuesday), 2015-03-26 (Thursday), 2015-10-19 (Monday), 2015-03-28 (Saturday), 2015-06-02 (Tuesday), and 2015-06-02 (Tuesday). The bottom of the window shows 'Result 24' and a close button.

order_date	dayname(order_date)
2015-09-07	Monday
2015-07-08	Wednesday
2015-03-14	Saturday
2015-01-28	Wednesday
2015-04-08	Wednesday
2015-05-25	Monday
2015-04-18	Saturday
2015-12-16	Wednesday
2015-11-24	Tuesday
2015-03-26	Thursday
2015-10-19	Monday
2015-03-28	Saturday
2015-06-02	Tuesday
2015-06-02	Tuesday

- Calculate the average time taken to ship orders.?
`select ceil(avg(abs(datediff(ship_date,order_date)))) as time_to_ship from orders;`

Result:

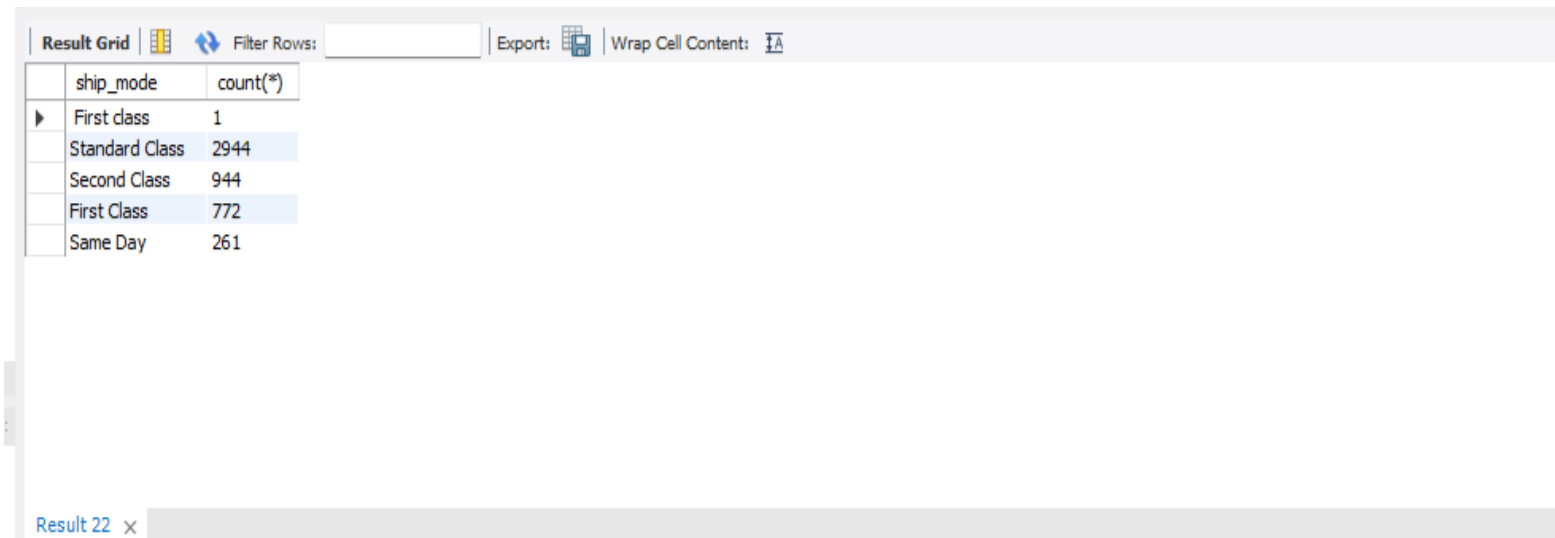


The screenshot shows a SQL query result grid. The grid has a single column labeled 'time_to_ship' and a single row with the value '5'. The interface includes a 'Filter Rows' section, an 'Export' button, and a 'Wrap Cell Content' option. The result is displayed in a tab labeled 'Result 23'.

time_to_ship
5

- How many orders were placed using each ship mode?
select ship_mode, count(*) from orders
group by ship_mode;

Result:



The screenshot shows a SQL query result grid with the following data:

ship_mode	count(*)
First class	1
Standard Class	2944
Second Class	944
First Class	772
Same Day	261

The interface includes a toolbar with options like 'Filter Rows', 'Export', and 'Wrap Cell Content'. The result is labeled 'Result 22'.

- Rank customers based on their total sales revenue?
select customer_id,sales,rank() over(order by a.product_id) as ranking from
product a join orders on orders.product_id=a.product_id;

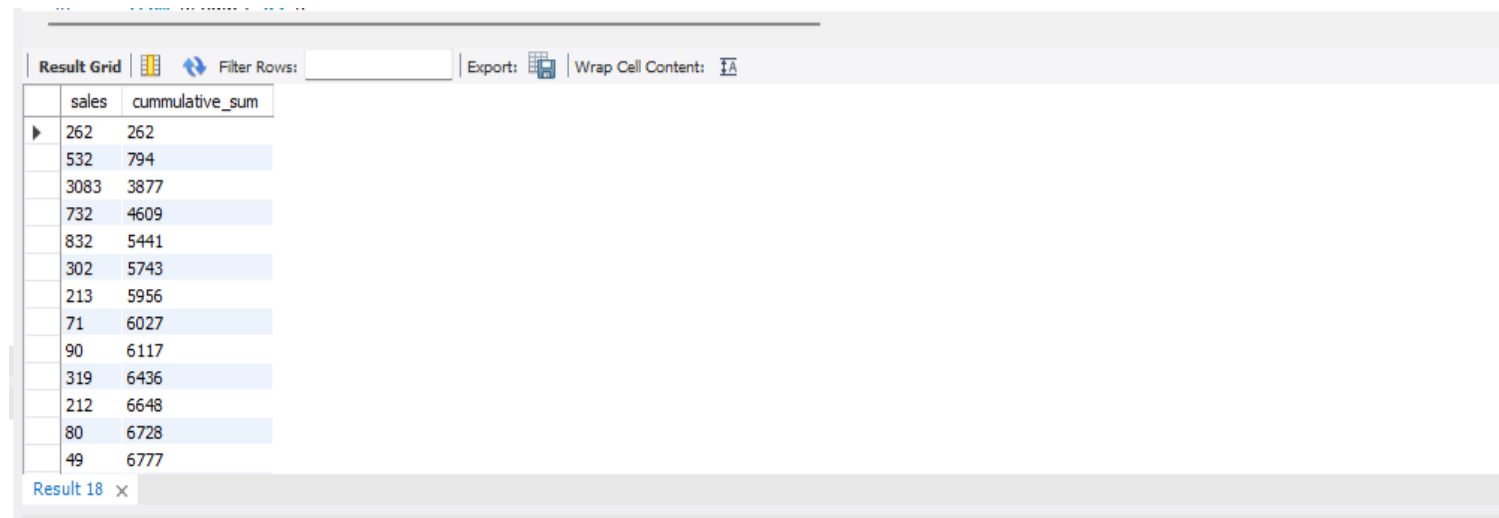
Result:

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
customer_id	sales	ranking	
CG-12520	262	1	
SV-20365	262	1	
HF-14995	262	1	
AG-10900	262	1	
SC-20260	532	5	
JO-15145	532	5	
TB-21520	3083	7	
QJ-19255	3083	7	
MG-17680	3083	7	
TT-21070	732	10	
DI-13600	732	10	
FP-14320	732	10	
BD-11605	732	10	

Result 21 x

- Calculate the cumulative sum of sales for each product.
`select sales,sum(sales) over(order by product_id) as cummulative_sum from product ;`

Result:

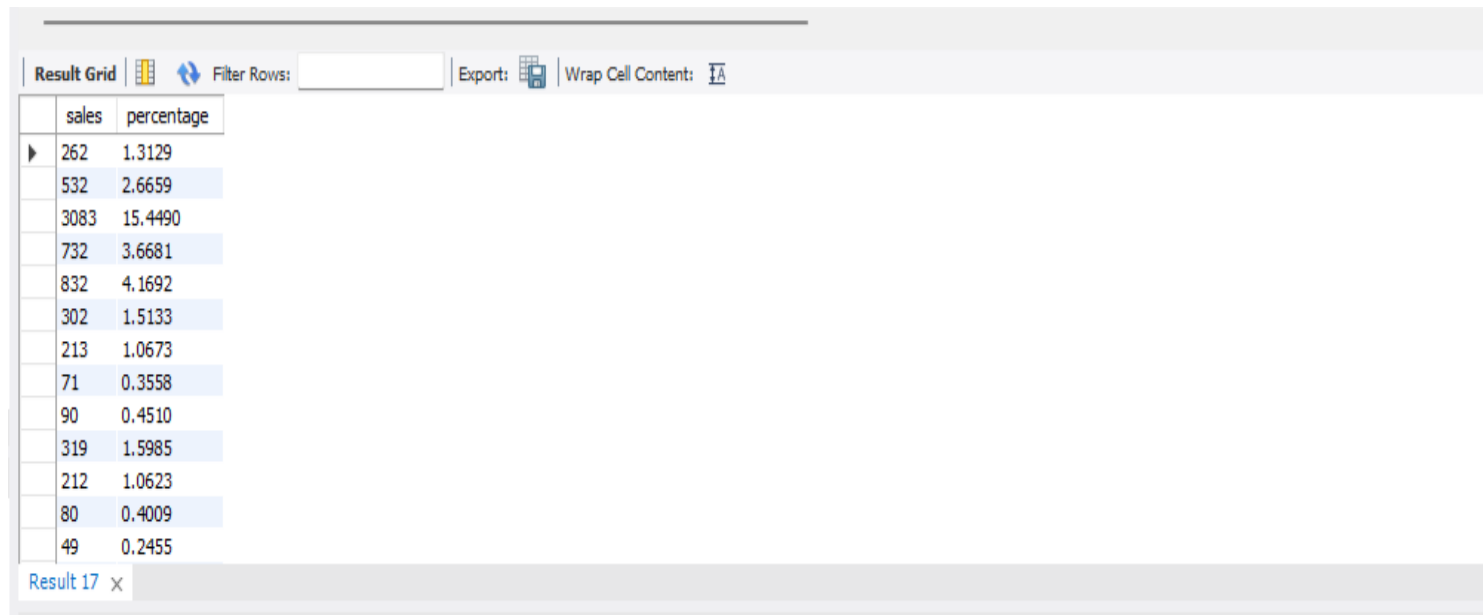


The screenshot shows a database query result grid with two columns: 'sales' and 'cummulative_sum'. The grid contains 18 rows of data. The first row has a product ID of 262 and a sales value of 262. Subsequent rows show increasing cumulative sums as the product IDs increase. The interface includes a 'Result Grid' header, a 'Filter Rows' input field, and an 'Export' button. A tab at the bottom is labeled 'Result 18'.

	sales	cummulative_sum
▶	262	262
	532	794
	3083	3877
	732	4609
	832	5441
	302	5743
	213	5956
	71	6027
	90	6117
	319	6436
	212	6648
	80	6728
	49	6777

- Determine the percentage of total sales each product sales contribute?
select sales,sales/sum(sales) over() *100 as percentage from product ;

Result:

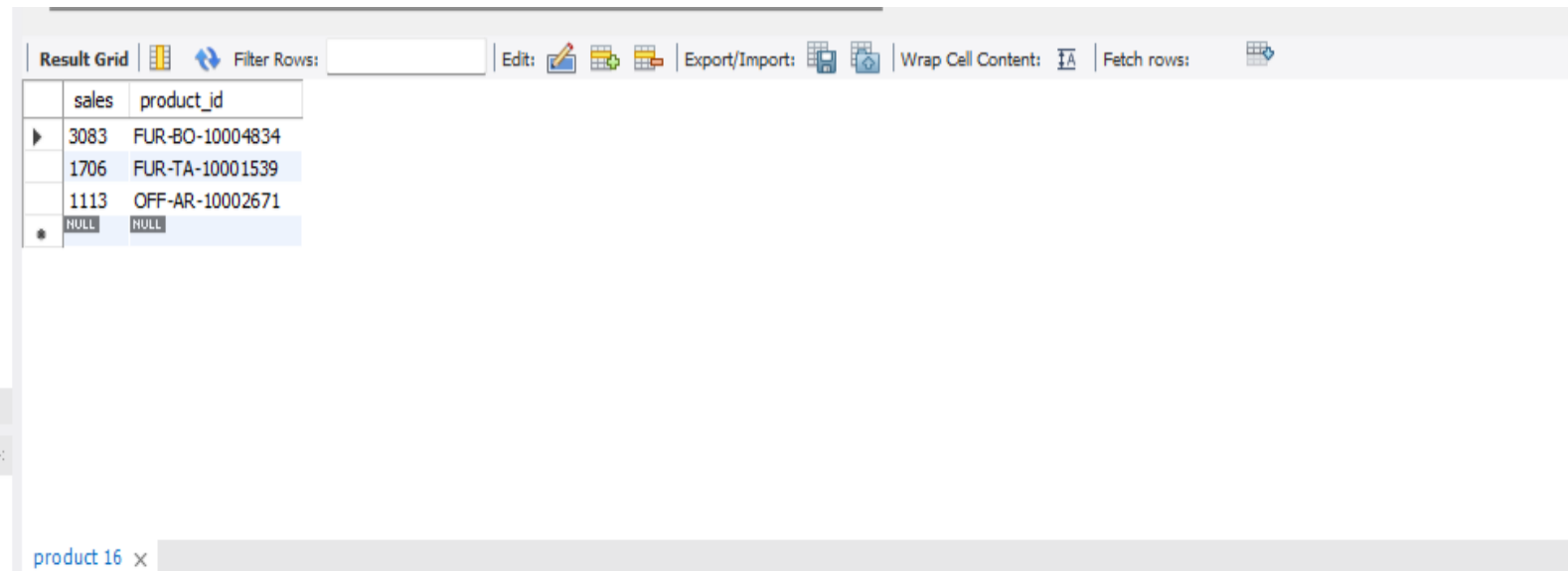


	sales	percentage
▶	262	1.3129
	532	2.6659
	3083	15.4490
	732	3.6681
	832	4.1692
	302	1.5133
	213	1.0673
	71	0.3558
	90	0.4510
	319	1.5985
	212	1.0623
	80	0.4009
	49	0.2455

Result 17 x

- Find the top 3 products in each category based on sales.
select sales,product_id from product
order by sales desc
limit 3;

Result:





The screenshot shows a software interface with a 'Result Grid' at the top. Below the grid is a toolbar with icons for 'Filter Rows', 'Edit', 'Export/Import', 'Wrap Cell Content', and 'Fetch rows'. The grid itself contains a table with two columns: 'sales' and 'product_id'. The first three rows are highlighted in blue, representing the top products by sales. The fourth row is a summary row with 'NULL' values. At the bottom left, there is a tab labeled 'product 16' with a close button 'x'.

sales	product_id
3083	FUR-BO-10004834
1706	FUR-TA-10001539
1113	OFF-AR-10002671
NULL	NULL

- Calculate the moving average of sales over a specific time period.
select o.order_date,p.sales, avg(sales) over(order by order_date) as moving_avg
from product as p
join orders as o
on o.product_id=p.product_id;
-

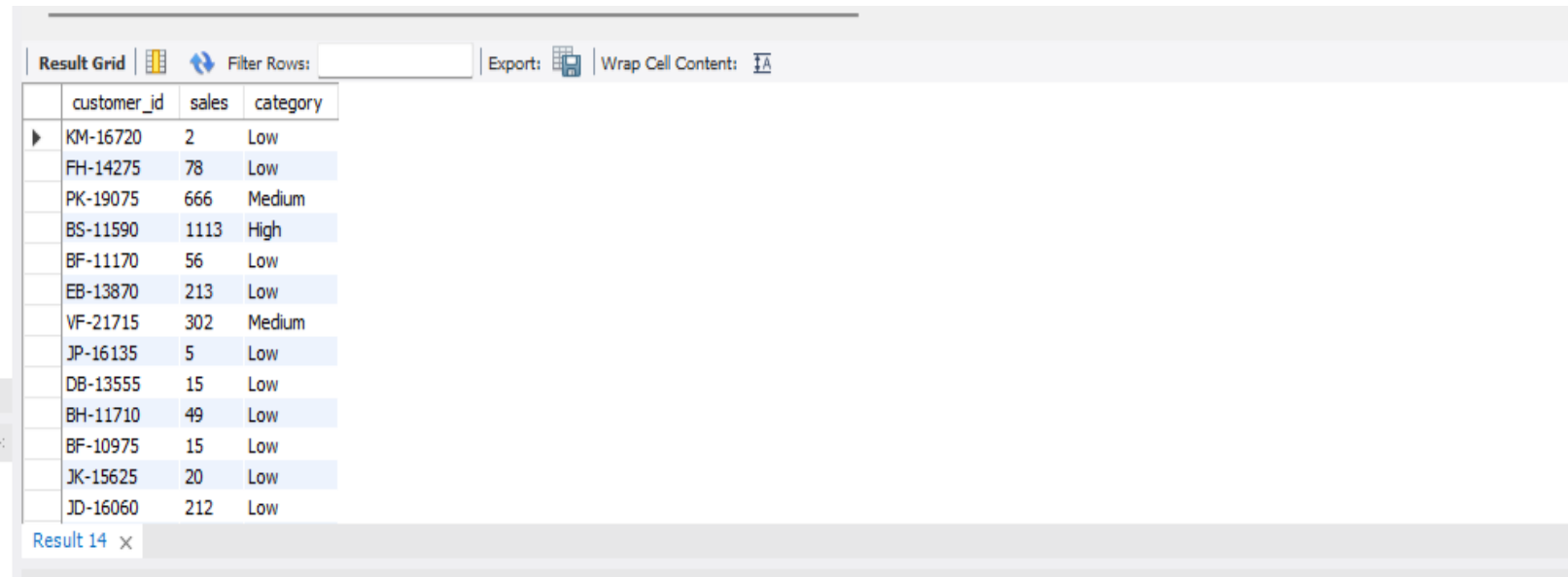
Result:

Result Grid			
Filter Rows: <input type="text"/>			
Export:  Wrap Cell Content: 			
	order_date	sales	moving_avg
▶	2015-01-20	22	22.0000
	2015-02-11	213	117.5000
	2015-03-01	302	179.0000
	2015-03-22	38	143.7500
	2015-03-28	3	115.6000
	2015-04-18	2	96.6667
	2015-04-25	97	96.7143
	2015-05-05	213	116.4444
	2015-05-05	158	116.4444
	2015-05-07	26	107.4000
	2015-05-09	56	102.7273
	2015-05-13	56	98.8333
	2015-05-23	13	92.2308

Result 15 x

- classify customers into 'High', 'Medium', or 'Low' based on their total sales.?
select customer_id,sales,if(sales between 300 and 1000
,"Medium",if(sales<300,"Low","High")) as category
from product as p join orders as o on o.product_id = p.product_id;

Result:



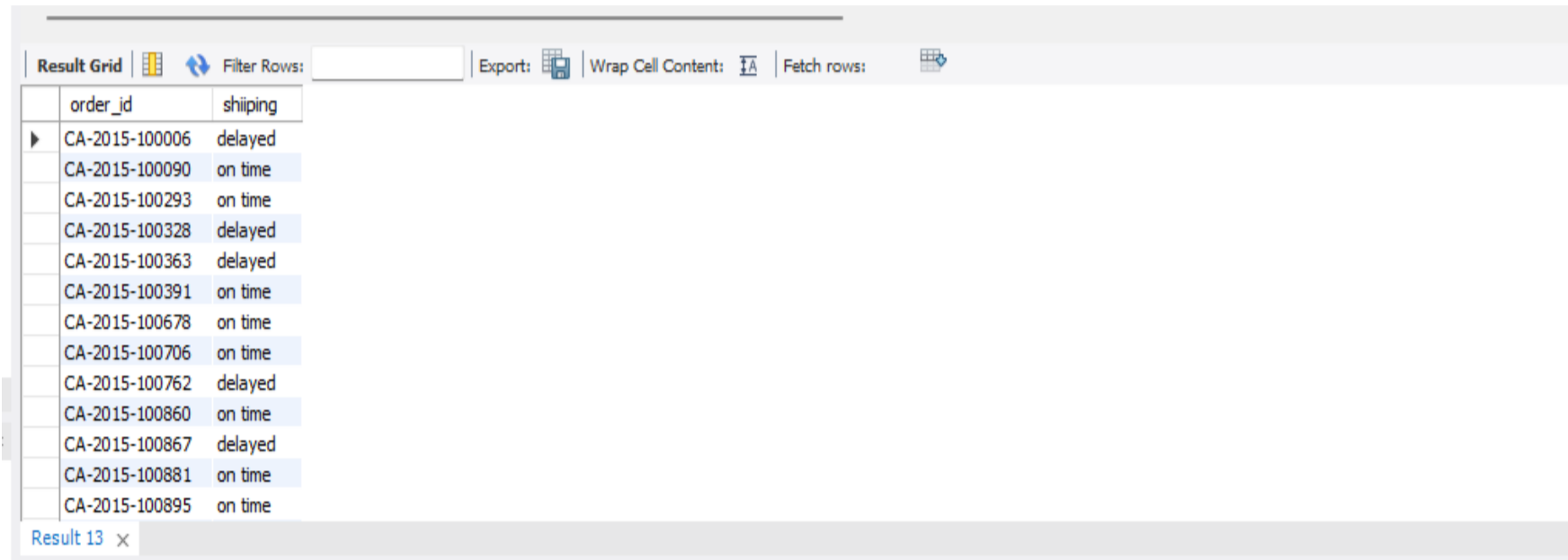
The screenshot shows a database query result grid with the following columns: customer_id, sales, and category. The results are sorted by customer_id. The categories are determined by the sales amount: sales between 300 and 1000 are 'Medium', sales less than 300 are 'Low', and sales greater than 1000 are 'High'.

customer_id	sales	category
KM-16720	2	Low
FH-14275	78	Low
PK-19075	666	Medium
BS-11590	1113	High
BF-11170	56	Low
EB-13870	213	Low
VF-21715	302	Medium
JP-16135	5	Low
DB-13555	15	Low
BH-11710	49	Low
BF-10975	15	Low
JK-15625	20	Low
JD-16060	212	Low

- Identify orders that were shipped on time or delayed.?

```
select order_id,if(abs(datediff(order_date, ship_date))>4,"delayed ","on time") as shipping
from orders;
```

Result:

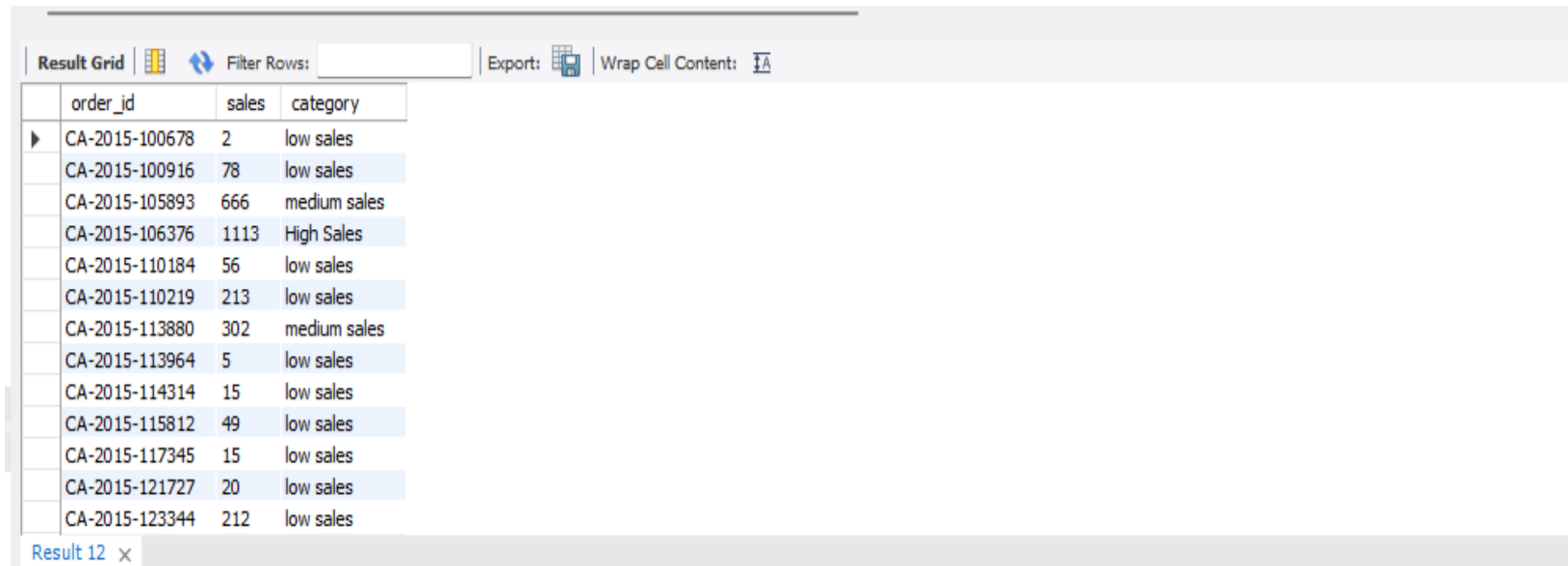


The screenshot shows a database interface with a 'Result Grid' tab. The grid contains 15 rows of data. The first column is 'order_id' and the second column is 'shipping'. The shipping status is 'delayed' for orders where the difference between order_date and ship_date is greater than 4 days, and 'on time' otherwise. The interface includes a 'Filter Rows' field, an 'Export' button, a 'Wrap Cell Content' button, and a 'Fetch rows' button. The bottom of the window shows 'Result 13' with a close button.

order_id	shipping
CA-2015-100006	delayed
CA-2015-100090	on time
CA-2015-100293	on time
CA-2015-100328	delayed
CA-2015-100363	delayed
CA-2015-100391	on time
CA-2015-100678	on time
CA-2015-100706	on time
CA-2015-100762	delayed
CA-2015-100860	on time
CA-2015-100867	delayed
CA-2015-100881	on time
CA-2015-100895	on time

- Classify products into different categories based on their sales.
select order_id,sales, if(sales>1000,"High Sales",if(sales between 300 and 1000,"medium sales","low sales")) as category from product as p
join orders as o on o.product_id=p.product_id
group by order_id;

Result:



The screenshot shows a database query result grid. At the top, there are icons for 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'. Below these is a table with three columns: 'order_id', 'sales', and 'category'. The table contains 15 rows of data. The first row is highlighted with a blue arrow icon. The last row is highlighted with a blue 'x' icon. The table is titled 'Result 12'.

order_id	sales	category
CA-2015-100678	2	low sales
CA-2015-100916	78	low sales
CA-2015-105893	666	medium sales
CA-2015-106376	1113	High Sales
CA-2015-110184	56	low sales
CA-2015-110219	213	low sales
CA-2015-113880	302	medium sales
CA-2015-113964	5	low sales
CA-2015-114314	15	low sales
CA-2015-115812	49	low sales
CA-2015-117345	15	low sales
CA-2015-121727	20	low sales
CA-2015-123344	212	low sales

- Find orders placed by customers from a specific city?
select * from orders as o
join customer as c on c.customer_id=o.customer_id
where c.city="New York City";



Result:

Result Grid												
Filter Rows: <input type="text"/> Export: Wrap Cell Content:												
	order_id	order_date	ship_mode	ship_date	customer_id	product_id	customer_id	customer_name	segment	country	city	state
▶	CA-2015-100762	2015-11-24	Standard Class	2015-11-29	NG-18355	OFF-AR-10000380	NG-18355	Nat Gilpin	Corporate	United States	New York City	New York
	CA-2015-100972	2015-11-19	Second Class	2015-11-24	DB-13360	OFF-PA-10000357	DB-13360	Dennis Bolton	Home Office	United States	New York City	New York
	CA-2015-101931	2015-10-28	First Class	2015-10-31	TS-21370	OFF-BI-10004140	TS-21370	Todd Sumrall	Corporate	United States	New York City	New York
	CA-2015-103590	2015-11-30	Standard Class	2015-12-04	JL-15505	OFF-EN-10004007	JL-15505	Jeremy Lonsdale	Consumer	United States	New York City	New York
	CA-2015-103660	2015-08-25	Standard Class	2015-08-30	MW-18220	TEC-PH-10000895	MW-18220	Mitch Webber	Consumer	United States	New York City	New York
	CA-2015-103744	2015-02-23	Standard Class	2015-02-27	MG-17875	OFF-LA-10004425	MG-17875	Michael Grace	Home Office	United States	New York City	New York
	CA-2015-104178	2015-08-25	Standard Class	2015-08-29	JM-15265	FUR-FU-10000771	JM-15265	Janet Molinari	Corporate	United States	New York City	New York
	CA-2015-104808	2015-02-04	Second Class	2015-02-08	MH-17440	OFF-BI-10003676	MH-17440	Mark Haberlin	Corporate	United States	New York City	New York
	CA-2015-104829	2015-11-18	Second Class	2015-11-21	JG-15805	OFF-PA-10003016	JG-15805	John Grady	Corporate	United States	New York City	New York
	CA-2015-108182	2015-02-06	Second Class	2015-02-10	DL-13315	OFF-BI-10001196	DL-13315	Delfina Latchford	Consumer	United States	New York City	New York
	CA-2015-110408	2015-10-18	Second Class	2015-10-20	AS-10225	OFF-ST-10001522	AS-10225	Alan Schoenberger	Corporate	United States	New York City	New York
	CA-2015-111857	2015-04-23	Second Class	2015-04-26	NM-18445	OFF-PA-10001878	NM-18445	Nathan Mautz	Home Office	United States	New York City	New York

Result 11 × Read Only

- Get the total sales revenue along with the customer segment.
select segment,sum(sales) from orders
join product on orders.product_id=product.product_id
join customer on orders.customer_id=customer.customer_id
group by segment;
-

Result:

Result Grid		
Filter Rows: <input type="text"/>		
Export:  Wrap Cell Content: 		
segment	sum(sales)	
Consumer	34032	
Corporate	23048	
Home Office	9279	

Result 10 ×

- Combine customer, order, and product information in a single query.?

select order_id,order_date,ship_mode,ship_date,customer.customer_id as

customer_id,customer_name,product.product_id as

product_id,product_name,category,sales,sub_category,customer_name,segment,country,city,state,region,postal_code
from orders

join product on orders.product_id=product.product_id

join customer on orders.customer_id=customer.customer_id;

Result:

order_id	order_date	ship_mode	ship_date	customer_id	customer_name	product_id	product_name	category	sales
CA-2015-100678	2015-04-18	Standard Class	2015-04-22	KM-16720	Kunst Miller	OFF-AR-10001868	Prang Dustless Chalk Sticks	Office Supplies	2
CA-2015-100916	2015-10-21	Standard Class	2015-10-26	FH-14275	Frank Hawley	OFF-ST-10003479	Eldon Base for stackable storage shelf, platinum	Office Supplies	78
CA-2015-105893	2015-11-11	Standard Class	2015-11-18	PK-19075	Pete Kriz	OFF-ST-10004186	Stur-D-Stor Shelving, Vertical 5-Shelf: 72"H x 3...	Office Supplies	666
CA-2015-106376	2015-12-05	Standard Class	2015-12-10	BS-11590	Brendan Sweed	OFF-AR-10002671	Hunt BOSTON Model 1606 High-Volume Electric ...	Office Supplies	1113
CA-2015-110184	2015-07-12	Standard Class	2015-07-16	BF-11170	Ben Ferrer	OFF-ST-10000107	Fellowes Super Stor/Drawer	Office Supplies	56
CA-2015-110219	2015-05-05	First Class	2015-05-08	EB-13870	Emily Burns	FUR-CH-10001146	Global Value Mid-Back Manager's Chair, Gray	Furniture	213
CA-2015-113880	2015-03-01	Standard Class	2015-03-05	VF-21715	Vicky Freymann	FUR-CH-10000863	Novimex Swivel Fabric Task Chair	Furniture	302
CA-2015-113964	2015-09-23	Standard Class	2015-09-30	JP-16135	Julie Prescott	OFF-BI-10004654	Avery Binding System Hidden Tab Executive Sty...	Office Supplies	5
CA-2015-114314	2015-10-11	Standard Class	2015-10-15	DB-13555	Dorothy Badders	OFF-LA-10000240	Self-Adhesive Address Labels for Typewriters b...	Office Supplies	15
CA-2015-115812	2015-06-09	Standard Class	2015-06-14	BH-11710	Brosina Hoffman	FUR-FU-10001487	Eldon Expressions Wood and Plastic Desk Acces...	Furniture	49
CA-2015-117345	2015-08-01	Standard Class	2015-08-05	BF-10975	Barbara Fisher	OFF-LA-10000240	Self-Adhesive Address Labels for Typewriters b...	Office Supplies	15
CA-2015-121727	2015-08-19	Standard Class	2015-08-24	JK-15625	Jim Karlsson	OFF-AR-10004930	Turquoise Lead Holder with Pocket Clip	Office Supplies	20

- Retrieve products belonging to categories with the highest sales.?

```
SELECT p.product_name, p.product_id, p.category, p.sales
```

```
FROM product p
```

```
WHERE p.sales = (
```

```
    SELECT MAX(p2.sales)
```







```
    FROM product p2
```

```
    WHERE p2.category = p.category
```

```
    GROUP BY p2.category
```

```
);
```

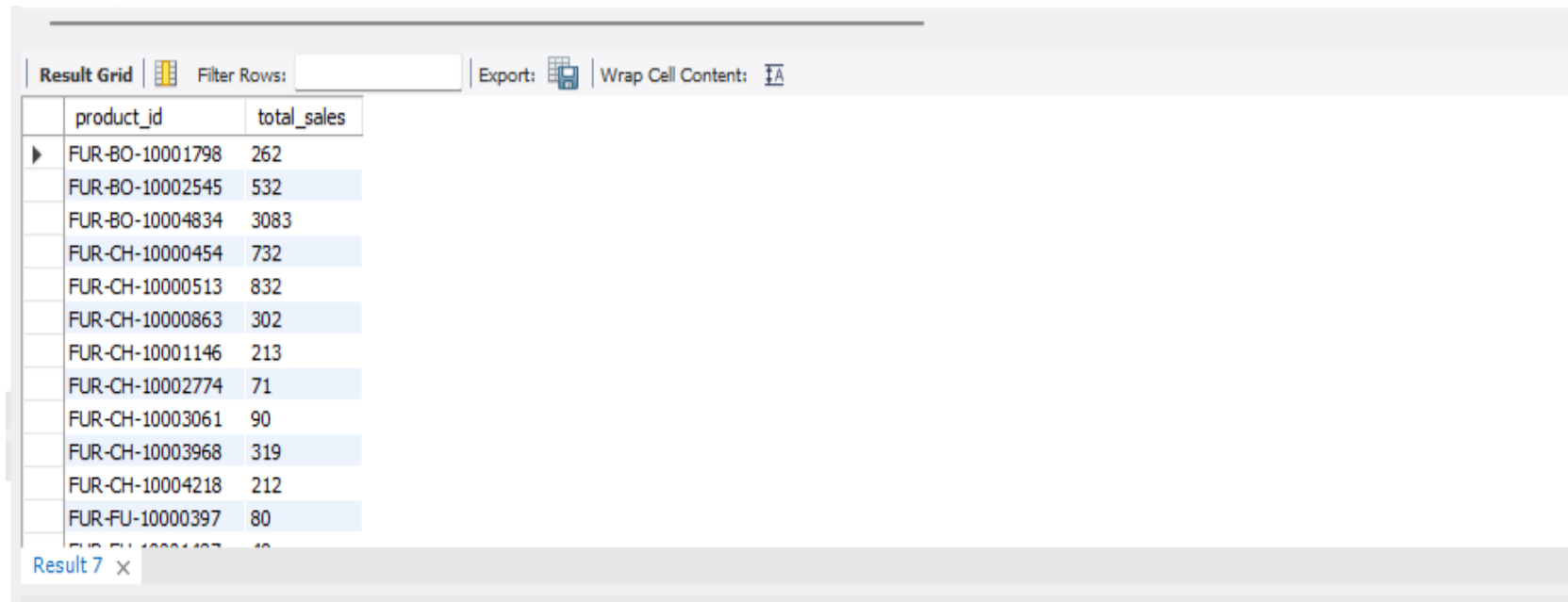
Result:

Result Grid				
Filter Rows: <input type="text"/>				
Edit:   				
Export/Import:  				
Wrap Cell Content: 				
	product_name	product_id	category	sales
▶	Riverside Palais Royal Lawyers Bookcase, Royal...	FUR-BO-10004834	Furniture	3083
	Hunt BOSTON Model 1606 High-Volume Electric ...	OFF-AR-10002671	Office Supplies	1113
	GE 30524EE4	TEC-PH-10004977	Technology	1098
*	NULL	NULL	NULL	NULL

product 8 x

- Create a CTE to calculate the total sales revenue for each product.?
with productsales as(
select
product_id,sum(sales) as total_sales from product
group by product_id)
select p.product_id,ps.total_sales from product as p
join productsales as ps on ps.product_id=p.product_id;

Result:



The screenshot shows a database query result grid with two columns: 'product_id' and 'total_sales'. The grid contains 15 rows of data. The first row is highlighted with a mouse cursor. The grid is titled 'Result 7' and has a close button (X) next to it. The grid also has a 'Filter Rows' field and an 'Export' button.

product_id	total_sales
FUR-BO-10001798	262
FUR-BO-10002545	532
FUR-BO-10004834	3083
FUR-CH-10000454	732
FUR-CH-10000513	832
FUR-CH-10000863	302
FUR-CH-10001146	213
FUR-CH-10002774	71
FUR-CH-10003061	90
FUR-CH-10003968	319
FUR-CH-10004218	212
FUR-FU-10000397	80
FUR-FU-10001407	40

- Use a CTE to find customers who have placed orders in the last month.?

WITH RecentOrders AS (

SELECT DISTINCT customer_id, order_date

FROM Orders

WHERE order_date >= date_add((select order_date from orders
order by order_date desc
limit 1), interval -1 month)

)

SELECT DISTINCT C.customer_id, C.customer_name, R.order_date

FROM customer C

INNER JOIN RecentOrders R ON C.customer_id = R.customer_id;

Result:

Result Grid			
Filter Rows:		Export:	Wrap Cell Content:
	customer_id	customer_name	order_date
▶	AA-10375	Allen Arnold	2018-12-11
	SR-20425	Sharelle Roach	2018-12-22
	JG-15310	Jason Gross	2018-12-28
	MV-18190	Mike Vittorini	2018-12-11
	SH-19975	Sally Hughsby	2018-12-01
	EP-13915	Emily Phan	2018-12-18
	DK-13150	David Kendrick	2018-12-20
	SC-20800	Stuart Calhoun	2018-11-30
	BB-11545	Brenda Bowman	2018-12-02
	AT-10435	Alyssa Tate	2018-12-09
	LW-17215	Luke Weiss	2018-12-09
	MV-17485	Mark Van Huff	2018-12-03
	AT-10375	Allen Arnold	2018-12-11

Result 6 x

- Generate a view to list all orders with their corresponding product information.?

create view order_list as

select

order_id,ship_date,ship_mode,customer_id,product.product_id,category,sub_category,product_name,sales
from orders

join product on product.product_id=orders.product_id;

select * from order_list;

Result:

Result Grid									
Filter Rows:									
Export:									
Wrap Cell Content:									
order_id	ship_date	ship_mode	customer_id	product_id	category	sub_category	product_name	sales	
CA-2015-100678	2015-04-22	Standard Class	KM-16720	OFF-AR-10001868	Office Supplies	Art	Prang Dustless Chalk Sticks	2	
CA-2015-100916	2015-10-26	Standard Class	FH-14275	OFF-ST-10003479	Office Supplies	Storage	Eldon Base for stackable storage shelf, platinum	78	
CA-2015-105893	2015-11-18	Standard Class	PK-19075	OFF-ST-10004186	Office Supplies	Storage	Stur-D-Stor Shelving, Vertical 5-Shelf: 72"H x 3...	666	
CA-2015-106376	2015-12-10	Standard Class	BS-11590	OFF-AR-10002671	Office Supplies	Art	Hunt BOSTON Model 1606 High-Volume Electric ...	1113	
CA-2015-110184	2015-07-16	Standard Class	BF-11170	OFF-ST-10000107	Office Supplies	Storage	Fellowes Super Stor/Drawer	56	
CA-2015-110219	2015-05-08	First Class	EB-13870	FUR-CH-10001146	Furniture	Chairs	Global Value Mid-Back Manager's Chair, Gray	213	
CA-2015-113880	2015-03-05	Standard Class	VF-21715	FUR-CH-10000863	Furniture	Chairs	Novimex Swivel Fabric Task Chair	302	
CA-2015-113964	2015-09-30	Standard Class	JP-16135	OFF-BI-10004654	Office Supplies	Binders	Avery Binding System Hidden Tab Executive Sty...	5	
CA-2015-114314	2015-10-15	Standard Class	DB-13555	OFF-LA-10000240	Office Supplies	Labels	Self-Adhesive Address Labels for Typewriters b...	15	
CA-2015-115812	2015-06-14	Standard Class	BH-11710	FUR-FU-10001487	Furniture	Furnishings	Eldon Expressions Wood and Plastic Desk Acces...	49	
CA-2015-117345	2015-08-05	Standard Class	BF-10975	OFF-LA-10000240	Office Supplies	Labels	Self-Adhesive Address Labels for Typewriters b...	15	
CA-2015-121727	2015-08-24	Standard Class	JK-15625	OFF-AR-10004930	Office Supplies	Art	Turquoise Lead Holder with Pocket Clip	20	

- Generate a view to list orders placed in the last week.?

```
CREATE VIEW OrdersLastWeek AS
```

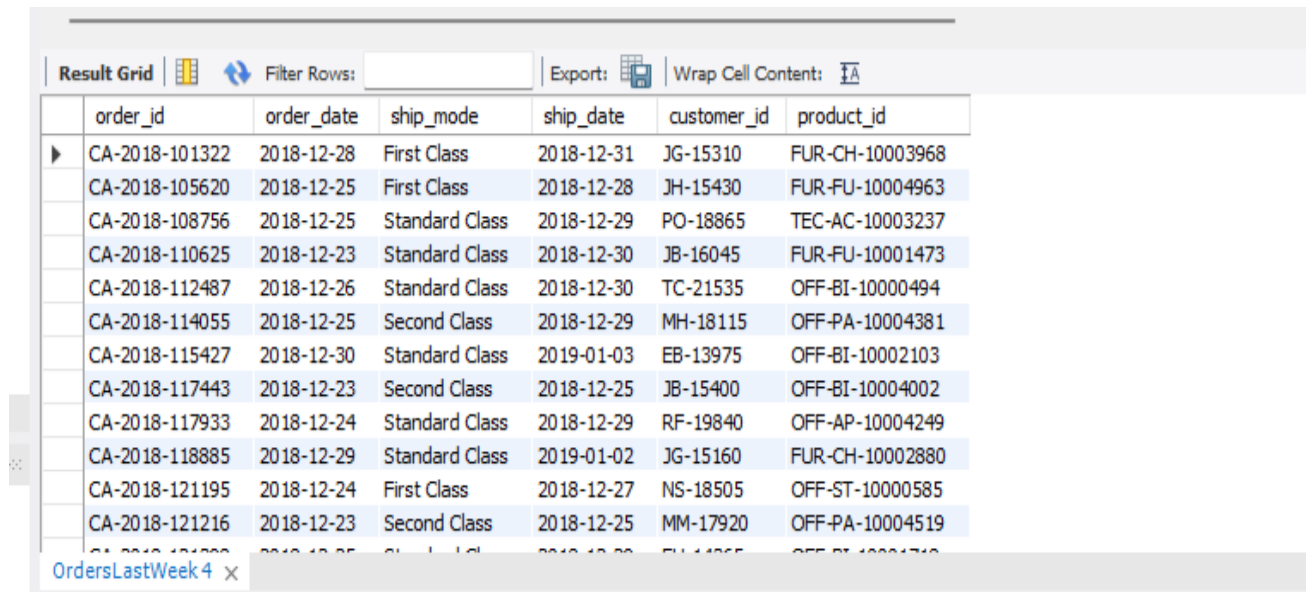
```
SELECT *
```

```
FROM orders
```

```
WHERE order_date >= date_add((select order_date from orders  
    order by order_date desc  
    limit 1), interval -1 week);
```

```
select * from OrdersLastWeek;
```

Result:



	order_id	order_date	ship_mode	ship_date	customer_id	product_id
▶	CA-2018-101322	2018-12-28	First Class	2018-12-31	JG-15310	FUR-CH-10003968
	CA-2018-105620	2018-12-25	First Class	2018-12-28	JH-15430	FUR-FU-10004963
	CA-2018-108756	2018-12-25	Standard Class	2018-12-29	PO-18865	TEC-AC-10003237
	CA-2018-110625	2018-12-23	Standard Class	2018-12-30	JB-16045	FUR-FU-10001473
	CA-2018-112487	2018-12-26	Standard Class	2018-12-30	TC-21535	OFF-BI-10000494
	CA-2018-114055	2018-12-25	Second Class	2018-12-29	MH-18115	OFF-PA-10004381
	CA-2018-115427	2018-12-30	Standard Class	2019-01-03	EB-13975	OFF-BI-10002103
	CA-2018-117443	2018-12-23	Second Class	2018-12-25	JB-15400	OFF-BI-10004002
	CA-2018-117933	2018-12-24	Standard Class	2018-12-29	RF-19840	OFF-AP-10004249
	CA-2018-118885	2018-12-29	Standard Class	2019-01-02	JG-15160	FUR-CH-10002880
	CA-2018-121195	2018-12-24	First Class	2018-12-27	NS-18505	OFF-ST-10000585
	CA-2018-121216	2018-12-23	Second Class	2018-12-25	MM-17920	OFF-PA-10004519
	CA-2018-121222	2018-12-23	Standard Class	2018-12-25	EB-13975	OFF-BI-10002103

OrdersLastWeek 4 x

- Implement a stored procedure to insert new orders into the database.?

delimiter //

create procedure customerdetails(

IN customerid varchar(20),

IN customername varchar(30),

IN segment varchar(20),

IN country varchar(20),

IN city varchar(20),

IN state varchar(20),

IN region varchar(10),

IN postal_code int)

Begin

insert into customer values(customerid,customername,segment,country,city,state,region,postal_code);

end

//

delimiter ;

call customerdetails('AE-10189','Alen Ramu','Corporate','United

Kingdom','England','Texas','Central',40423);

select * from customer;

Result:

Result Grid								
Filter Rows:								
Edit: Export/Import: Wrap Cell Content:								
customer_id	customer_name	segment	country	city	state	region	postal_code	
AC-10615	Ann Chong	Corporate	United States	New York City	New York	East	10009	
AC-10660	Anna Chung	Consumer	United States	Huntsville	Texas	Central	77340	
AD-10180	Alan Dominguez	Home Office	United States	Houston	Texas	Central	77041	
AE-10109	Alen Ramu	Corporate	United Kingdom	England	Texas	Central	40423	
AE-10189	Alen Ramu	Corporate	United Kingdom	England	Texas	Central	40423	
AF-10870	Art Ferguson	Consumer	United States	College Station	Texas	Central	77840	
AF-10885	Art Foster	Consumer	United States	Louisville	Kentucky	South	40214	
AG-10270	Alejandro Grove	Consumer	United States	West Jordan	Utah	West	84084	
AG-10300	Aleksandra Ganna...	Corporate	United States	Los Angeles	California	West	90049	
AG-10330	Alex Grayson	Consumer	United States	Stockton	California	West	95207	
AG-10390	Allen Goldenen	Consumer	United States	Cincinnati	Ohio	East	45231	
AG-10495	Andrew Gjertsen	Corporate	United States	Philadelphia	Pennsylvania	East	19140	

- Implement a trigger to update the ship_date when an order is updated.

delimiter //

```
CREATE TRIGGER UpdateShipDate
```

```
Before UPDATE ON Orders
```

```
FOR EACH ROW
```

```
BEGIN
```

```
    SET NEW.ship_date = CURRENT_TIMESTAMP();
```

```
end ;
```

```
//
```

delimiter ;

```
update orders set ship_mode=' First class' where order_id='CA-2015-100006';
```

```
select * from orders;
```

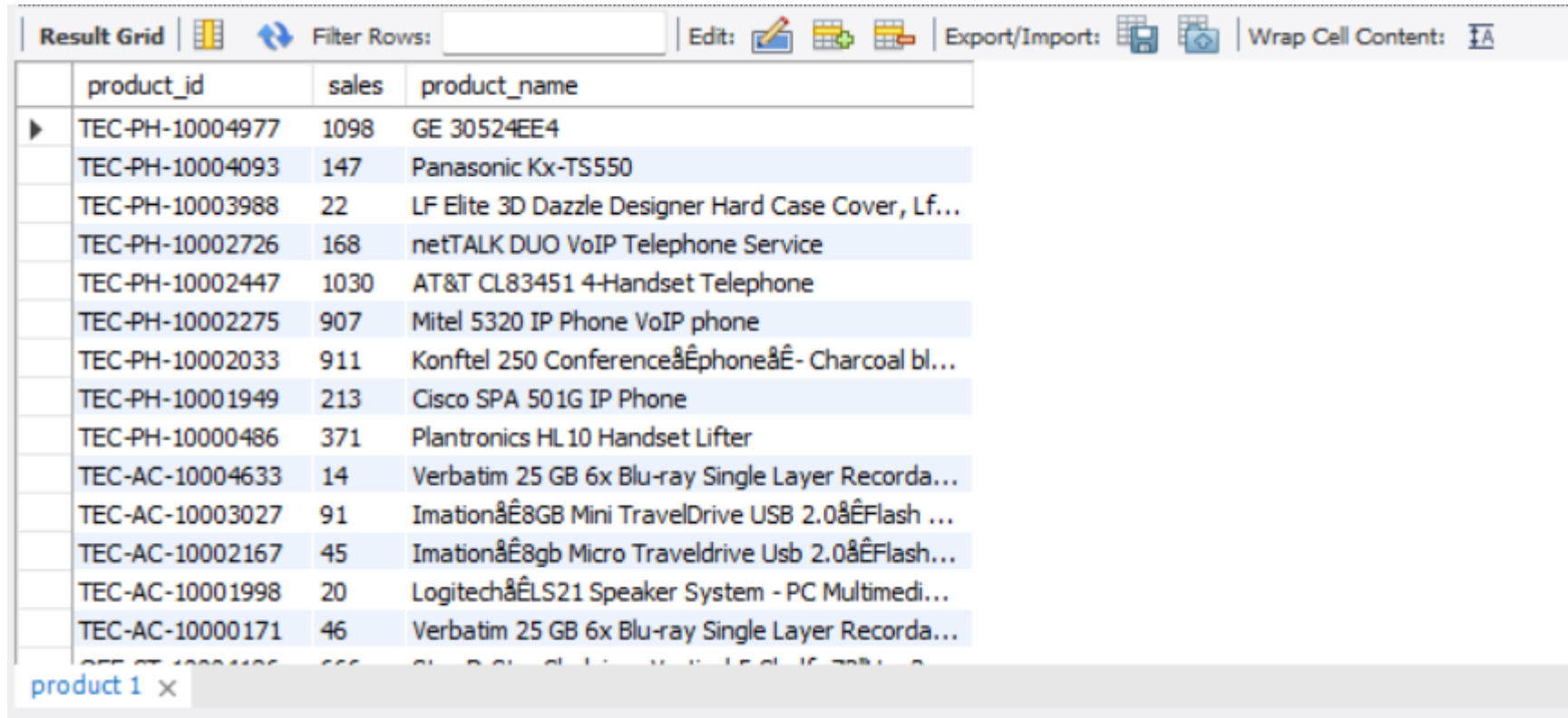
Result:

Result Grid						
Filter Rows:		Edit:		Export/Import:		Wrap Cell Content: <input type="checkbox"/>
						Fetch rows: <input type="checkbox"/>
	order_id	order_date	ship_mode	ship_date	customer_id	product_id
▶	CA-2015-100006	2015-09-07	First class	2024-04-12	DK-13375	TEC-PH-10002075
	CA-2015-100090	2015-07-08	Standard Class	2015-07-12	EB-13705	FUR-TA-10003715
	CA-2015-100293	2015-03-14	Standard Class	2015-03-18	NF-18475	OFF-PA-10000176
	CA-2015-100328	2015-01-28	Standard Class	2015-02-03	JC-15340	OFF-BI-10000343
	CA-2015-100363	2015-04-08	Standard Class	2015-04-15	JM-15655	OFF-FA-10000611
	CA-2015-100391	2015-05-25	Standard Class	2015-05-29	BW-11065	OFF-PA-10001471
	CA-2015-100678	2015-04-18	Standard Class	2015-04-22	KM-16720	OFF-AR-10001868
	CA-2015-100706	2015-12-16	Second Class	2015-12-18	LE-16810	TEC-AC-10001314
	CA-2015-100762	2015-11-24	Standard Class	2015-11-29	NG-18355	OFF-AR-10000380
	CA-2015-100860	2015-03-26	Second Class	2015-03-30	CS-12505	OFF-LA-10001982
	CA-2015-100867	2015-10-19	Standard Class	2015-10-24	EH-14125	TEC-PH-10004922
	CA-2015-100881	2015-03-28	Standard Class	2015-04-01	DR-12940	TEC-PH-10003273
	CA-2015-100895	2015-06-02	Standard Class	2015-06-06	SV-20785	OFF-AR-10004511
	CA-2015-100916	2015-10-21	Standard Class	2015-10-26	FH-14275	OFF-ST-10003479
	CA-2015-100073	2015-11-10	Standard Class	2015-11-14	DD-13300	OFF-PA-10000257

orders 2 x

- Implement indexes on columns frequently used in search conditions, such as product_id?
create index idx_productid on product(product_id);
select product_id,sales,product_name from product
order by product_id desc;

Result:



	product_id	sales	product_name
▶	TEC-PH-10004977	1098	GE 30524EE4
	TEC-PH-10004093	147	Panasonic Kx-TS550
	TEC-PH-10003988	22	LF Elite 3D Dazzle Designer Hard Case Cover, Lf...
	TEC-PH-10002726	168	netTALK DUO VoIP Telephone Service
	TEC-PH-10002447	1030	AT&T CL83451 4-Handset Telephone
	TEC-PH-10002275	907	Mitel 5320 IP Phone VoIP phone
	TEC-PH-10002033	911	Konftel 250 Conferenceâ€”phoneâ€” Charcoal bl...
	TEC-PH-10001949	213	Cisco SPA 501G IP Phone
	TEC-PH-10000486	371	Plantronics HL10 Handset Lifter
	TEC-AC-10004633	14	Verbatim 25 GB 6x Blu-ray Single Layer Record...
	TEC-AC-10003027	91	Imationâ€”8GB Mini TravelDrive USB 2.0â€”Flash ...
	TEC-AC-10002167	45	Imationâ€”8gb Micro Traveldrive Usb 2.0â€”Flash...
	TEC-AC-10001998	20	Logitechâ€”S21 Speaker System - PC Multimedi...
	TEC-AC-10000171	46	Verbatim 25 GB 6x Blu-ray Single Layer Record...
	TEC-AC-10000100	666	Verbatim 25 GB 6x Blu-ray Single Layer Record...

product 1 x