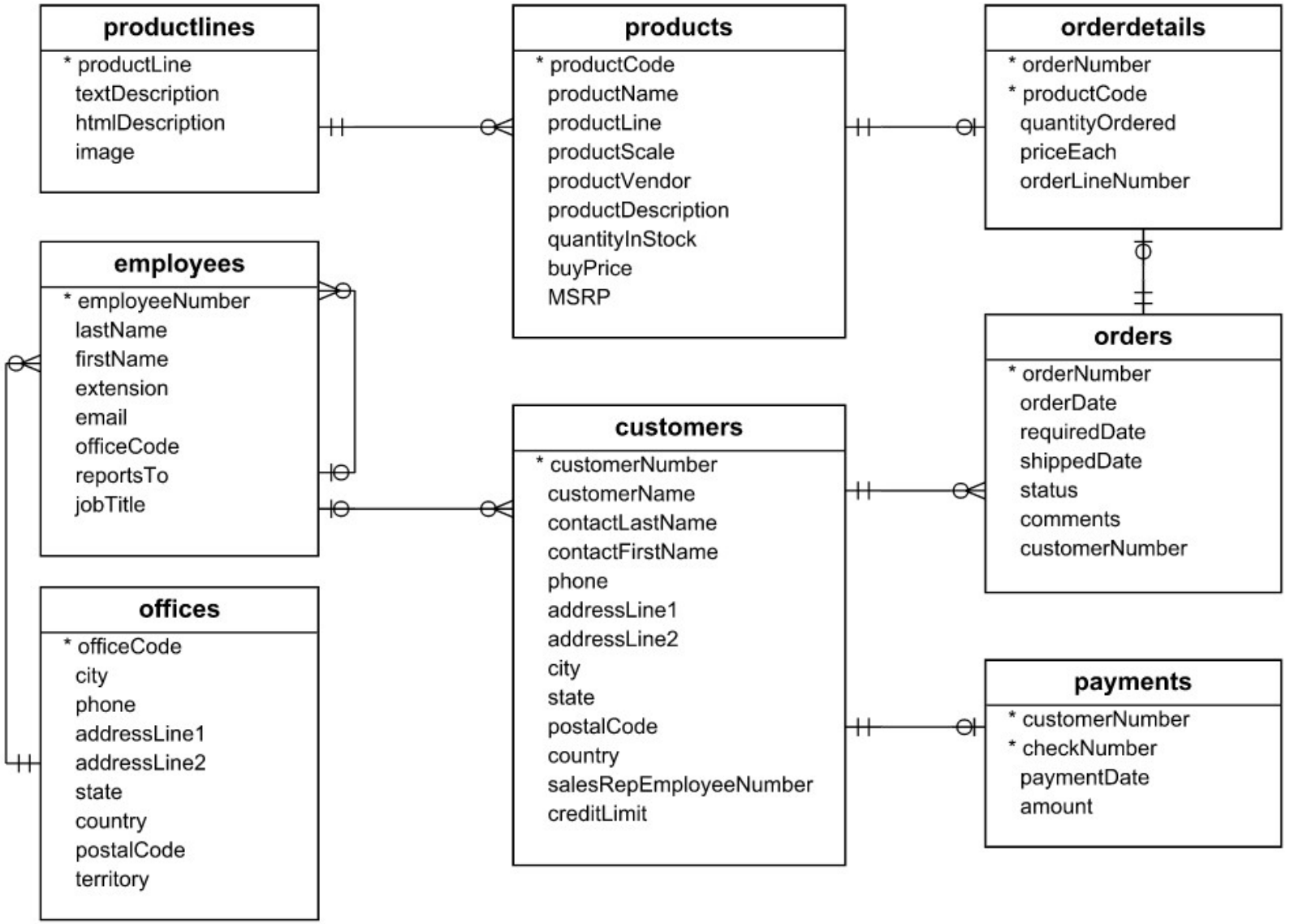
MySQL Sample Database Diagram



```sql
/* Question 1: Can you please give me an overview of sales for 2004?
I would like to see a breakdown by product, country and city and please include the sales value, cost of sales and net profit.*/

select t1.orderDate, t1.customerNumber, quantityOrdered, priceEach, productName, productLine,
buyPrice,city,country, priceEach*quantityOrdered as Sales_value, quantityOrdered*buyPrice as Cost_of_sales
from orders t1
inner join orderdetails t2
on t1.orderNumber = t2.orderNumber
inner join products t3
on t2.productCode = t3.productCode
inner join customers t4
on t1.customerNumber = t4.customerNumber
where year(orderdate) = 2004
```

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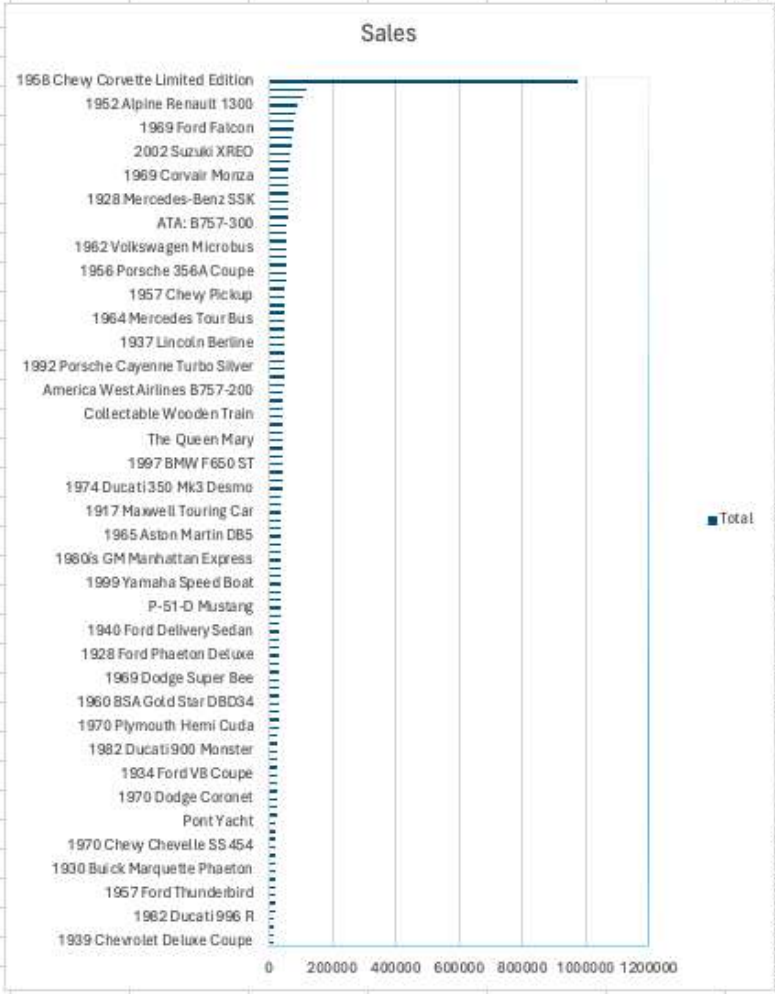
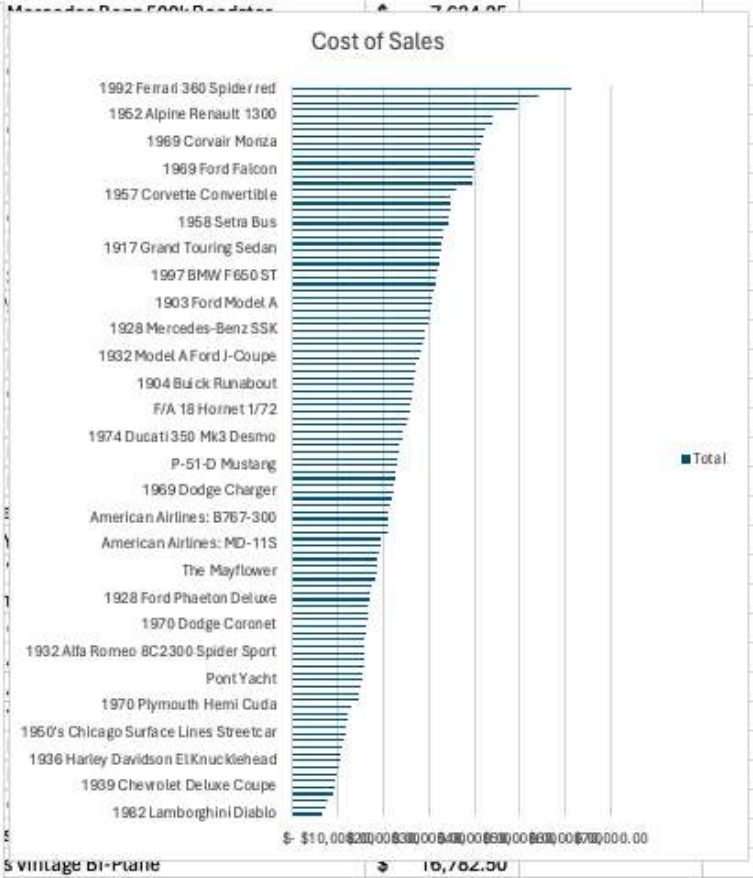
Result Grid Filter Rows: Search Export: Fetch rows:

orderDate	customerNumber	quantityOrder...	priceEach	productName	productLine	buyPrice	city	country	Sales_value	Cost_of_sales
2004-01-02	146	46	176.63	2001 Ferrari Enzo	Classic Cars	95.59	Lyon	France	8124.98	4397.14
2004-01-02	146	26	128.42	1969 Corvair Monza	Classic Cars	89.14	Lyon	France	3338.92	2317.64
2004-01-02	146	20	152.26	1969 Ford Falcon	Classic Cars	83.05	Lyon	France	3045.20	1661.00
2004-01-02	146	24	117.47	1903 Ford Model A	Vintage Cars	68.30	Lyon	France	2819.28	1639.20
2004-01-02	146	48	96.81	Collectable Wooden Train	Trains	67.56	Lyon	France	4646.88	3242.88
2004-01-02	146	45	72.85	1904 Buick Runabout	Vintage Cars	52.66	Lyon	France	3278.25	2369.70
2004-01-02	146	35	122.89	18th century schooner	Ships	82.34	Lyon	France	4301.15	2881.90
2004-01-02	146	20	80.54	1912 Ford Model T Delivery Wagon	Vintage Cars	46.91	Lyon	France	1610.80	938.20
2004-01-02	146	30	57.99	1962 City of Detroit Streetcar	Trains	37.49	Lyon	France	1739.70	1124.70
2004-01-02	146	38	56.67	The Schooner Bluenose	Ships	34.00	Lyon	France	2153.46	1292.00
2004-01-02	146	40	73.62	The Mayflower	Ships	43.30	Lyon	France	2944.80	1732.00

Sum of Cost of Sales productName	Total
1982 Lamborghini Diablo	$ 6,642.16
1958 Chevy Corvette Limited Edition	$ 7,207.23
s Vintage Bi-Plane	$ 16,782.50
Ford Phaeton Deluxe	$ 16,873.22
chooner Bluenose	$ 16,898.00
BSA Gold Star DBD34	$ 17,428.44
ISS Constitution Ship	$ 18,377.77
The Mayflower	$ 18,445.80
1962 City of Detroit Streetcar	$ 18,520.06

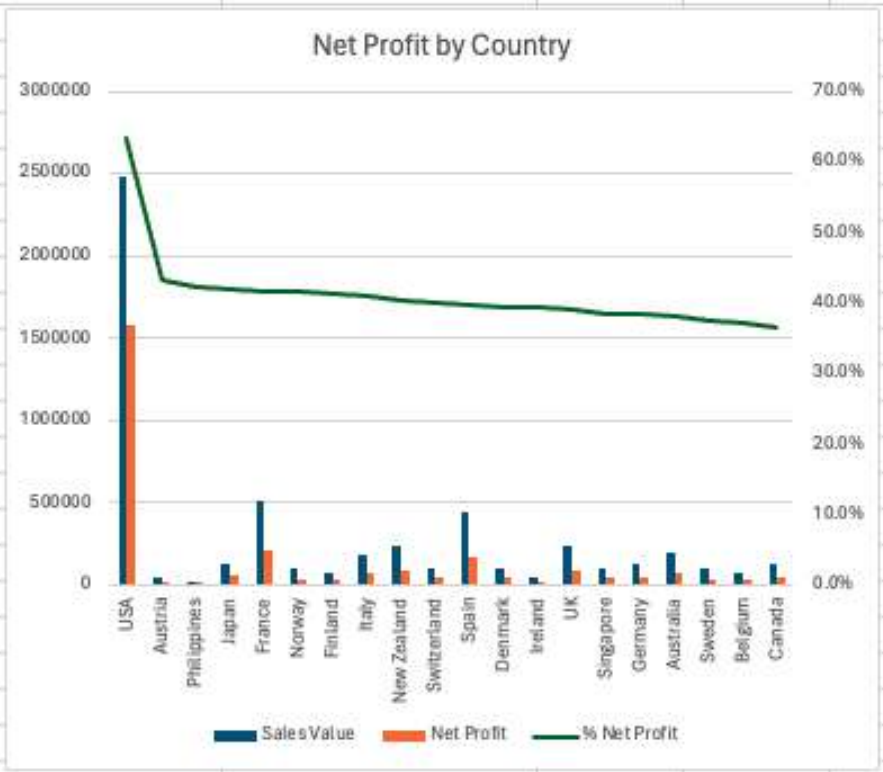




1969
1958

Sales Overview by Product | Product Purchased Together | Credit Limit Grouped | Sales Overview by Country | Sales Data | Purchased Value Change | +

Country	Sales Value	Net Profit	% Net Profit
USA	2484643.13	1572513.56	63.3%
Austria	49233.67	21358.43	43.4%
Philippines	15822.84	6673.46	42.2%
Japan	133326.77	56004.59	42.0%
France	506660.01	211528.15	41.7%
Norway	97312.63	40476.09	41.6%
Finland	78948.21	32674.53	41.4%
Italy	179108.4	73353.47	41.0%
New Zealand	233362.27	94390.14	40.4%
Switzerland	108777.92	43393.75	39.9%
Spain	439881.84	175328.56	39.9%
Denmark	107232.63	42304.91	39.5%
Ireland	49898.27	19588.29	39.3%
UK	238193.93	93425.03	39.2%
Singapore	108032.41	41674.04	38.6%
Germany	133831.7	51408.35	38.4%
Australia	204213.18	78176.66	38.3%
Sweden	107829.78	40557.66	37.6%
Belgium	74335.37	27591.91	37.1%
Canada	123404.03	45103.04	36.5%



```sql
/*Question 2: Can you give me a breakdown of what products are commonly purchased together,
 and any products that are rarely purchased together?*/

with prod_sales as
 (
 select orderNumber, t1.productCode, productLine
 from orderdetails t1
 inner join products t2
 on t1.productCode = t2.productCode
 )
 select distinct t1.orderNumber, t1.productLine as product_one, t2.productLine as product_two
 from prod_sales t1
 left join prod_sales t2
 on t1.orderNumber = t2.orderNumber and t1.productLine <> t2.productLine
```

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Result Grid Filter Rows: Search Export: Fetch rows:

orderNumber	product_one	product_two
10103	Classic Cars	Trucks and Buses
10103	Classic Cars	Vintage Cars
10112	Classic Cars	Vintage Cars
10126	Classic Cars	Trucks and Buses
10126	Classic Cars	Vintage Cars
10140	Classic Cars	Trucks and Buses
10140	Classic Cars	Vintage Cars
10150	Classic Cars	Trucks and Buses
10150	Classic Cars	Vintage Cars
10163	Classic Cars	Vintage Cars
10174	Classic Cars	Trucks and Buses

orderNumber	product_one	product_two
10100	Vintage Cars	None
10101	Vintage Cars	None
10102	Vintage Cars	None
10103	Classic Cars	Trucks and Buses
10103	Classic Cars	Vintage Cars
10103	Trucks and Buses	Classic Cars
10103	Trucks and Buses	Vintage Cars
10103	Vintage Cars	Classic Cars
10103	Vintage Cars	Trucks and Buses
10104	Classic Cars	Trucks and Buses
10104	Classic Cars	Trains
10104	Trains	Classic Cars
10104	Trains	Trucks and Buses
10104	Trucks and Buses	Classic Cars
10104	Trucks and Buses	Trains
10105	Classic Cars	Vintage Cars
10105	Classic Cars	Trains
10105	Classic Cars	Ships
10105	Ships	Classic Cars
10105	Ships	Vintage Cars
10105	Ships	Trains
10105	Trains	Classic Cars
10105	Trains	Vintage Cars
10105	Trains	Ships
10105	Vintage Cars	Classic Cars
10105	Vintage Cars	Trains
10105	Vintage Cars	Ships
10106	Planes	Ships
10106	Planes	Vintage Cars
10106	Ships	Planes
10106	Ships	Vintage Cars
10106	Vintage Cars	Planes
10106	Vintage Cars	Ships
10107	Motorcycles	None
10108	Classic Cars	Motorcycles
10108	Motorcycles	Classic Cars
10109	Classic Cars	None
10110	Classic Cars	Vintage Cars
10110	Vintage Cars	Classic Cars

Count of orderNumber	Column Labels							
Row Labels	Classic Cars	Motorcycles	None	Planes	Ships	Trains	Trucks and Buses	Vintage Cars
Classic Cars	0.00%	9.28%	11.30%	5.22%	11.01%	11.59%	20.87%	30.72%
Motorcycles	29.63%	0.00%	19.44%	26.85%	1.85%	0.00%	0.00%	22.22%
Planes	13.33%	21.48%	1.48%	0.00%	22.96%	0.74%	0.00%	40.00%
Ships	23.03%	1.21%	1.82%	18.79%	0.00%	15.15%	1.82%	38.18%
Trains	34.78%	0.00%	0.87%	0.87%	21.74%	0.00%	17.39%	24.35%
Trucks and Buses	52.17%	0.00%	0.72%	0.00%	2.17%	14.49%	0.00%	30.43%
Vintage Cars	30.55%	6.92%	8.65%	15.56%	18.16%	8.07%	12.10%	0.00%

```
creditLimit
from orders t1
inner join orderdetails t2
on t1.orderNumber = t2.orderNumber
inner join customers t3
on t1.customerNumber = t3.customerNumber
)

select ordernumber, customernumber,
case when creditlimit < 75000 then 'a: Less than $75k'
when creditlimit between 75000 and 100000 then 'b:$75k - $100k'
when creditlimit between 100000 and 150000 then 'c:$100k - $150k'
when creditlimit >150000 then 'd: over $150k'
else 'other'
end as creditlimit_group,
sum(sales_value) as sales_value
from sales
group by ordernumber, customernumber, creditlimit_group
```

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Result Grid Filter Rows: Search Export:

orderNumber	customerNumb...	creditlimit_group	sales_value
10123	103	a: Less than $75k	14571.44
10298	103	a: Less than $75k	6066.78
10345	103	a: Less than $75k	1676.14
10124	112	a: Less than $75k	32641.98
10278	112	a: Less than $75k	33347.88
10346	112	a: Less than $75k	14191.12
10120	114	c:$100k - $150k	45864.03
10125	114	c:$100k - $150k	7565.08
10223	114	c:$100k - $150k	44894.74
10342	114	c:$100k - $150k	40265.60
10347	114	c:$100k - $150k	41995.62

# orderNumber	customerNumber	creditlimit_group	sales_value
10123	103	a: Less than $75k	14571.44
10298	103	a: Less than $75k	6066.78
10345	103	a: Less than $75k	1676.14
10124	112	a: Less than $75k	32641.98
10278	112	a: Less than $75k	33347.88
10346	112	a: Less than $75k	14191.12
10120	114	c:$100k - $150k	45864.03
10125	114	c:$100k - $150k	7565.08
10223	114	c:$100k - $150k	44894.74
10342	114	c:$100k - $150k	40265.6
10347	114	c:$100k - $150k	41995.62
10275	119	c:$100k - $150k	47924.19
10315	119	c:$100k - $150k	19501.82
10375	119	c:$100k - $150k	49523.67
10425	119	c:$100k - $150k	41623.44
10103	121	b:$75k - $100k	50218.95
10158	121	b:$75k - $100k	1491.38
10309	121	b:$75k - $100k	17876.32
10325	121	b:$75k - $100k	34638.14
10113	124	d: over $150k	11044.3
10135	124	d: over $150k	55601.84
10142	124	d: over $150k	56052.56
10182	124	d: over $150k	45084.38
10229	124	d: over $150k	43369.3
10271	124	d: over $150k	37430.89
10282	124	d: over $150k	47979.98
10312	124	d: over $150k	55639.66
10335	124	d: over $150k	6466.44
10357	124	d: over $150k	40676.26
10368	124	d: over $150k	13874.75
10371	124	d: over $150k	35137.54
10382	124	d: over $150k	47765.59
10385	124	d: over $150k	4466.71
10390	124	d: over $150k	55902.5
10396	124	d: over $150k	27695.54
10421	124	d: over $150k	7639.1
10101	128	a: Less than $75k	10549.01
10230	128	a: Less than $75k	33820.62
10300	128	a: Less than $75k	24101.81

Row Labels	Sum of sales_value
a: Less than $75k	$ 2,012,655.70
b:$75k - $100k	$ 3,344,344.76
c:$100k - $150k	$ 2,834,673.27
d: over $150k	$ 1,412,516.88
Grand Total	**$ 9,604,190.61**

Credit Limit	Average sales_value per order
a: Less than $75k	$ 20,329.86
b:$75k - $100k	$ 30,129.23
c:$100k - $150k	$ 38,831.14
d: over $150k	$ 32,849.23
Grand Total	**$ 29,460.71**

```sql
/* Question 4: Can I have a view showing customers sales and include a column which shows the difference in value from their previous sale?
I want to see if new customers who make their first purchase are likely to send more.*/

with main_cte as
(
select orderNumber, orderDate,customerNumber, sum(sales_value) as sales_value
from
(select t1.orderNumber, orderDate, customerNumber, productCode, quantityOrdered * priceEach as sales_value
from orders t1
inner join orderdetails t2
on t1.orderNumber = t2.orderNumber) main
group by ordernumber, orderdate, customernumber
),

sales_query as
(
select t1.*, customername, row_number() over (partition by customername order by orderdate) as purchase_number,
lag(sales_value) over (partition by customername order by orderdate) as prev_sales_value
from main_cte t1
inner join customers t2
on t1.customernumber = t2.customernumber)

select *, sales_value - prev_sales_value as purchase_value_change
from sales_query
where prev_sales_value is not null
```

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Result Grid Filter Rows: Search Export:

orderNumber	orderDate	customerNumber	sales_value	customername	purchase_number	prev_sales_value	purchase_value_change
10178	2003-11-08	242	33818.34	Alpha Cognac	2	14232.70	19585.64
10397	2005-03-28	242	12432.32	Alpha Cognac	3	33818.34	-21386.02

F	G	H	I	J	K	L	M	N	O	P
purchase_num	prev_sales_value	purchase_value_change								
4	$ 49,523.67	$ (7,900.23)		Row Labels	Average of purchase_value_change					
26	$ 28,574.90	$ 735.40		2	-$2,648.36					
3	$ 45,352.47	$ (36,754.74)		3	$879.69					
4	$ 35,152.12	$ (29,302.68)		4	-$3,971.37					
17	$ 27,695.54	$ (20,056.44)		5	-$2,351.09					
4	$ 31,835.36	$ 10,416.15		6	$91.97					
4	$ 42,813.83	$ 9,606.24		7	$19,944.88					
3	$ 35,034.57	$ (11,407.13)		8	-$9,671.85					
25	$ 46,895.48	$ (18,320.58)		9	-$1,200.92					
3	$ 51,619.02	$ (16,256.76)		10	$267.59					
3	$ 9,415.13	$ 1,530.13		11	-$8,768.34					
3	$ 15,059.76	$ 35,747.09		12	$16,453.71					
3	$ 42,044.77	$ (13,543.99)		13	-$7,213.89					
24	$ 18,102.74	$ 28,792.74		14	-$13,584.02					
3	$ 22,997.45	$ 6,072.93		15	$30,894.29					
3	$ 37,769.38	$ (1,327.04)		16	-$24,585.17					
4	$ 38,785.48	$ (36,459.30)		17	-$700.38					
4	$ 33,967.73	$ (33,352.28)		18	-$11,896.34					
4	$ 31,755.34	$ 20,474.21		19	-$15,667.85					
5	$ 20,564.86	$ 1,073.76		20	$17,782.94					
3	$ 4,632.31	$ 30,525.44		21	$2,447.77					
5	$ 33,593.32	$ 7,833.49		22	$10,116.54					
3	$ 45,443.54	$ (8,184.60)		23	-$28,865.78					
3	$ 25,080.96	$ (12,890.11)		24	$28,792.74					
3	$ 31,102.85	$ 12,422.19		25	-$18,320.58					
3	$ 16,753.30	$ 15,002.04		26	$735.40					
4	$ 52,166.00	$ (21,912.25)		Grand Total	-$1,406.76					
5	$ 32,600.61	$ 14,056.33								
3	$ 33,818.34	$ (21,386.02)								
16	$ 55,902.50	$ (28,206.96)								
3	$ 26,311.63	$ (8,383.54)								
23	$ 46,968.52	$ (28,865.78)								
4	$ 39,440.59	$ (5,847.27)								
3	$ 15,130.97	$ (6,323.85)								
4	$ 27,083.78	$ 2,764.74								
15	$ 4,466.71	$ 51,435.79								
3	$ 48,809.90	$ (20,843.36)								
3	$ 48,355.87	$ (18,062.10)								
5	$ 2,611.84	$ 904.20								

```sql
/*Question 5: We have discovered that shipping is delayed due to the weather, and it's possible they will take up to 3 days to arrive.
Can you get me a list of affected orders?*/

select *,
date_add(shippeddate, interval 3 day) as latest_arival,
case when date_add(shippeddate, interval 3 day) > requiredDate then 1 else 0 end as late_flag
from orders
where
(case when date_add(shippeddate, interval 3 day) > requiredDate then 1 else 0 end) = 1
```

100% 87:9

Result Grid Filter Rows: Search Export:

orderNumber	orderDate	requiredDate	shippedDate	status	comments	customerNumber	latest_arival	late_flag
10111	2003-03-25	2003-03-31	2003-03-30	Shipped	NULL	129	2003-04-02	1
10121	2003-05-07	2003-05-13	2003-05-13	Shipped	NULL	353	2003-05-16	1
10128	2003-06-06	2003-06-12	2003-06-11	Shipped	NULL	141	2003-06-14	1
10133	2003-06-27	2003-07-04	2003-07-03	Shipped	NULL	141	2003-07-06	1
10139	2003-07-16	2003-07-23	2003-07-21	Shipped	NULL	282	2003-07-24	1
10145	2003-08-25	2003-09-02	2003-08-31	Shipped	NULL	205	2003-09-03	1
10149	2003-09-12	2003-09-18	2003-09-17	Shipped	NULL	487	2003-09-20	1
10152	2003-09-25	2003-10-03	2003-10-01	Shipped	NULL	333	2003-10-04	1
10153	2003-09-28	2003-10-05	2003-10-03	Shipped	NULL	141	2003-10-06	1
10157	2003-10-09	2003-10-15	2003-10-14	Shipped	NULL	473	2003-10-17	1
10160	2003-10-11	2003-10-17	2003-10-17	Shipped	NULL	347	2003-10-20	1
10165	2003-10-22	2003-10-31	2003-12-26	Shipped	This order was on hold because customers's credit limit had been e...	148	2003-12-29	1
10168	2003-10-28	2003-11-03	2003-11-01	Shipped	NULL	161	2003-11-04	1
10184	2003-11-14	2003-11-22	2003-11-20	Shipped	NULL	484	2003-11-23	1
10185	2003-11-14	2003-11-21	2003-11-20	Shipped	NULL	320	2003-11-23	1
10186	2003-11-14	2003-11-20	2003-11-18	Shipped	They want to reevaluate their terms agreement with the VP of Sales	489	2003-11-21	1
10188	2003-11-18	2003-11-26	2003-11-24	Shipped	NULL	167	2003-11-27	1
10189	2003-11-18	2003-11-25	2003-11-24	Shipped	They want to reevaluate their terms agreement with Finance.	205	2003-11-27	1
10193	2003-11-21	2003-11-28	2003-11-27	Shipped	NULL	471	2003-11-30	1
10196	2003-11-26	2003-12-03	2003-12-01	Shipped	NULL	455	2003-12-04	1