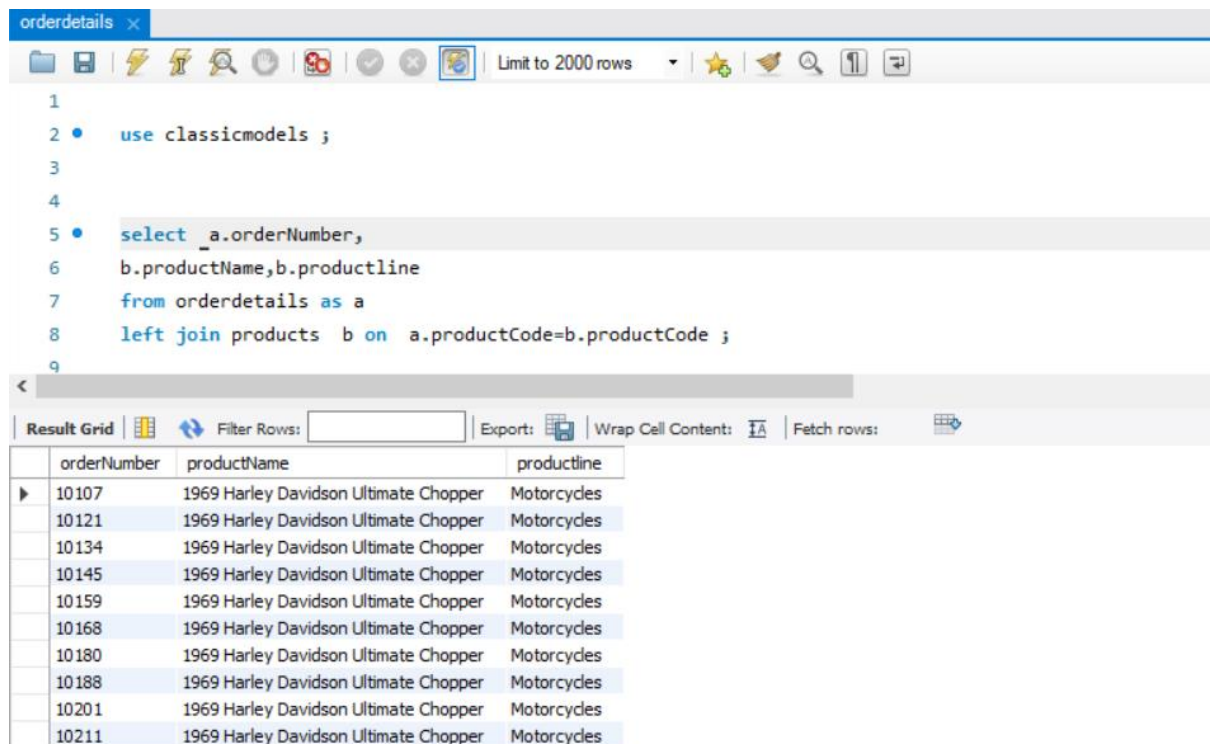


## SQL Assignment

1. Find the product names for each of the orders in "Orderdetails" table and find their respective product lines as well.



The screenshot shows a SQL IDE window titled "orderdetails". The query editor contains the following SQL code:

```
1
2 • use classicmodels ;
3
4
5 • select a.orderNumber,
6       b.productName,b.productline
7   from orderdetails as a
8  left join products b on a.productCode=b.productCode ;
9
```

Below the query editor, the "Result Grid" tab is active, displaying the results of the query. The results are as follows:

	orderNumber	productName	productline
▶	10107	1969 Harley Davidson Ultimate Chopper	Motorcycles
	10121	1969 Harley Davidson Ultimate Chopper	Motorcycles
	10134	1969 Harley Davidson Ultimate Chopper	Motorcycles
	10145	1969 Harley Davidson Ultimate Chopper	Motorcycles
	10159	1969 Harley Davidson Ultimate Chopper	Motorcycles
	10168	1969 Harley Davidson Ultimate Chopper	Motorcycles
	10180	1969 Harley Davidson Ultimate Chopper	Motorcycles
	10188	1969 Harley Davidson Ultimate Chopper	Motorcycles
	10201	1969 Harley Davidson Ultimate Chopper	Motorcycles
	10211	1969 Harley Davidson Ultimate Chopper	Motorcycles

- Using the "Payments" table, find out the total amount spent by each customer and their respective countries.

orderdetails x

Limit to 2000 rows

```
10 • select a.customerNumber,
11       b.customerName ,
12       sum(a.amount) as 'amount spent',
13       b.country
14 from payments as a
15 left join customers as b on a.customerNumber=b.customerNumber
16 group by customerNumber ;
17
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: I A

	customerNumber	customerName	amount spent	country
▶	103	Atelier graphique	22314.36	France
	112	Signal Gift Stores	80180.98	USA
	114	Australian Collectors, Co.	180585.07	Australia
	119	La Rochelle Gifts	116949.68	France
	121	Baane Mini Imports	104224.79	Norway
	124	Mini Gifts Distributors Ltd.	584188.24	USA
	128	Blauer See Auto, Co.	75937.76	Germany
	129	Mini Wheels Co.	66710.56	USA
	131	Land of Toys Inc.	107639.94	USA
	141	Euro+ Shopping Channel	715738.98	Spain
	144	Volvo Model Replicas, Co	43680.65	Sweden
	145	Danish Wholesale Imports	107446.50	Denmark
	146	Saveley & Henriot, Co.	130305.35	France
	148	Dragon Souvenirs, Ltd.	156251.03	Singapore
	151	Muscle Machine Inc	177913.95	USA
	157	Diecast Classics Inc.	98509.25	USA
	161	Technics Stores Inc.	104545.22	USA
	166	Handji Gifts& Co	105420.57	Singapore
	167	Herkku Gifts	97562.47	Norway
	171	Daedalus Designs Imports	61781.70	France
	172	La Corne D'abondance, Co.	86553.52	France
	173	Cambridge Collectables Co.	32198.69	USA

- Find out the number of customers from each country and their respective sales representative, their overall sales for each of the country .

SQL Query:

```

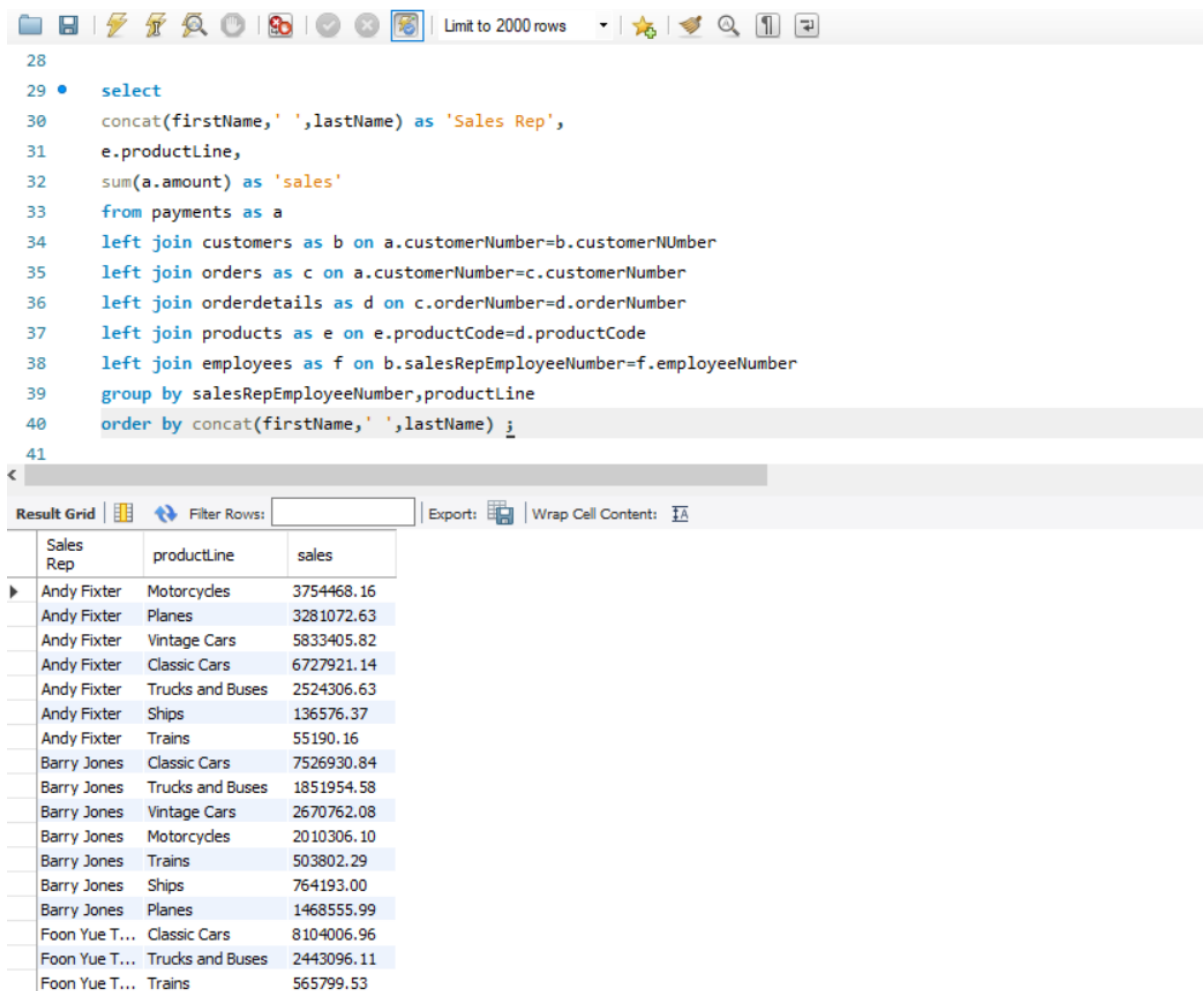
19 • select distinct a.country, count(a.customerName) as 'no of customers', a.salesRepEmployeeNumber,
20    sum(b.amount) as 'total sales',
21    concat(c.firstName, " ", c.lastName) as 'Rep_Name'
22  from customers as a
23 left join payments as b on a.customerNumber=b.customerNumber
24 left join employees as c on a.salesRepEmployeeNumber=c.employeeNumber
25 group by country
26 order by country ;
27

```

Result Grid

	country	no of customers	salesRepEmployeeNumber	total sales	Rep_Name
▶	Australia	16	1611	509385.82	Andy Fixter
	Austria	6	1401	136119.99	Pamela Castillo
	Belgium	6	1401	91471.03	Pamela Castillo
	Canada	7	1323	205911.86	George Vanauf
	Denmark	6	1401	197356.30	Pamela Castillo
	Finland	9	1501	295149.35	Larry Bott
	France	35	1370	965750.58	Gerard Hernandez
	Germany	17	1504	196470.99	Barry Jones
	Hong Kong	1	1621	45480.79	Mami Nishi
	Ireland	3	1504	49898.27	Barry Jones
	Israel	1	NULL	NULL	NULL
	Italy	9	1401	325254.55	Pamela Castillo
	Japan	6	1621	167909.95	Mami Nishi
	Netherlands	1	NULL	NULL	NULL
	New Zeal...	11	1612	392486.59	Peter Marsh
	Norway	8	1504	270846.30	Barry Jones
	Philippines	3	1621	87468.30	Mami Nishi
	Poland	1	NULL	NULL	NULL
	Portugal	2	NULL	NULL	NULL
	Russia	1	NULL	NULL	NULL
	Singapore	8	1621	261671.60	Mami Nishi
	South Africa	1	NULL	NULL	NULL
	Spain	25	1370	994438.53	Gerard Hernandez

4. Find out the amount of sales driven by each sales representative and for each product line.



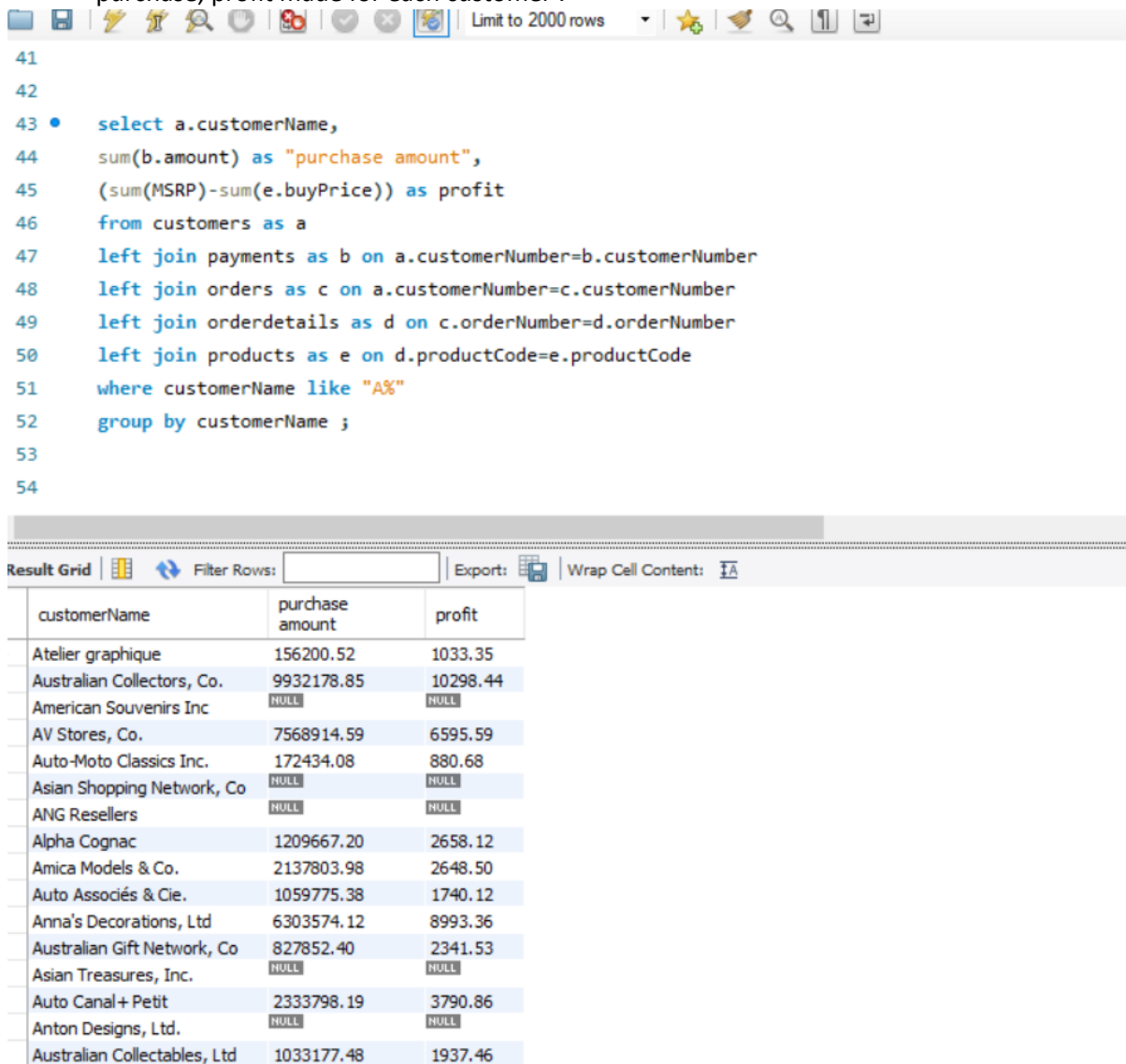
The screenshot shows a database query editor interface. At the top, there is a toolbar with various icons and a dropdown menu set to "Limit to 2000 rows". Below the toolbar, a SQL query is displayed, starting with a comment "28" and ending with a semicolon at line 41. The query is a SELECT statement that joins several tables: payments (a), customers (b), orders (c), orderdetails (d), products (e), and employees (f). It calculates the sum of the amount for each sales representative and product line combination. The results are displayed in a "Result Grid" below the query. The grid has four columns: Sales Rep, productLine, and sales. The data is grouped by sales representative, with each representative having six rows corresponding to the different product lines. The sales values are formatted with commas as thousands separators and two decimal places.

```
28
29 • select
30   concat(firstName, ' ', lastName) as 'Sales Rep',
31   e.productLine,
32   sum(a.amount) as 'sales'
33 from payments as a
34 left join customers as b on a.customerNumber=b.customerNumber
35 left join orders as c on a.customerNumber=c.customerNumber
36 left join orderdetails as d on c.orderNumber=d.orderNumber
37 left join products as e on e.productCode=d.productCode
38 left join employees as f on b.salesRepEmployeeNumber=f.employeeNumber
39 group by salesRepEmployeeNumber,productLine
40 order by concat(firstName, ' ', lastName) ;
41
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [fA](#)

Sales Rep	productLine	sales
▶ Andy Fixter	Motorcycles	3754468.16
Andy Fixter	Planes	3281072.63
Andy Fixter	Vintage Cars	5833405.82
Andy Fixter	Classic Cars	6727921.14
Andy Fixter	Trucks and Buses	2524306.63
Andy Fixter	Ships	136576.37
Andy Fixter	Trains	55190.16
Barry Jones	Classic Cars	7526930.84
Barry Jones	Trucks and Buses	1851954.58
Barry Jones	Vintage Cars	2670762.08
Barry Jones	Motorcycles	2010306.10
Barry Jones	Trains	503802.29
Barry Jones	Ships	764193.00
Barry Jones	Planes	1468555.99
Foon Yue T...	Classic Cars	8104006.96
Foon Yue T...	Trucks and Buses	2443096.11
Foon Yue T...	Trains	565799.53

5. List the customer names for those who their names are starting with "A" and their overall purchase, profit made for each customer .



The screenshot shows a SQL query editor with a toolbar at the top. The query is as follows:

```
41
42
43 • select a.customerName,
44       sum(b.amount) as "purchase amount",
45       (sum(MSRP)-sum(e.buyPrice)) as profit
46 from customers as a
47 left join payments as b on a.customerNumber=b.customerNumber
48 left join orders as c on a.customerNumber=c.customerNumber
49 left join orderdetails as d on c.orderNumber=d.orderNumber
50 left join products as e on d.productCode=e.productCode
51 where customerName like "A%"
52 group by customerName ;
53
54
```

Below the query editor is a "Result Grid" section. It includes a "Filter Rows:" input field, an "Export:" button, and a "Wrap Cell Content:" checkbox. The results are displayed in a table with three columns: customerName, purchase amount, and profit.

customerName	purchase amount	profit
Atelier graphique	156200.52	1033.35
Australian Collectors, Co.	9932178.85	10298.44
American Souvenirs Inc	NULL	NULL
AV Stores, Co.	7568914.59	6595.59
Auto-Moto Classics Inc.	172434.08	880.68
Asian Shopping Network, Co	NULL	NULL
ANG Resellers	NULL	NULL
Alpha Cognac	1209667.20	2658.12
Amica Models & Co.	2137803.98	2648.50
Auto Associés & Cie.	1059775.38	1740.12
Anna's Decorations, Ltd	6303574.12	8993.36
Australian Gift Network, Co	827852.40	2341.53
Asian Treasures, Inc.	NULL	NULL
Auto Canal+ Petit	2333798.19	3790.86
Anton Designs, Ltd.	NULL	NULL
Australian Collectables, Ltd	1033177.48	1937.46

6. Find the profit for each product line and also see the inventory in stock.

```
55  
56 • select productLine ,(sum(MSRP)-sum(buyPrice)) as profit ,sum(quantityInStock) as stock  
57 from products  
58 group by productLine ;  
59  
60
```

Result Grid			
Filter Rows:			
Export: Wrap Cell Content: I A			
productLine	profit	stock	
Classic Cars	2035.84	219183	
Motorcycles	604.41	69401	
Planes	478.64	62287	
Ships	356.00	26833	
Trains	89.79	16696	
Trucks and Buses	515.40	35851	
Vintage Cars	984.71	124880	

7. Check if the overall purchase value of each customers has exceeded the credit limit set for them and calculate the percent of deviation (both positive and negative) .

Limit to 2000 rows

```

60
61 • select distinct a.customerName ,a.creditLimit,
62      sum(b.amount) as "purchased amount", (a.creditLimit-sum(b.amount)) as "Remaining amount",
63      round((((a.creditLimit-sum(b.amount))/sum(b.amount))*100),2) as "deviation in %"
64 from customers as a
65 left join payments as b on a.customerNumber=b.customerNumber
66 group by customerName ;
67

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

customerName	creditLimit	purchased amount	Remaining amount	deviation in %
Atelier graphique	21000.00	22314.36	-1314.36	-5.89
Signal Gift Stores	71800.00	80180.98	-8380.98	-10.45
Australian Collectors, Co.	117300.00	180585.07	-63285.07	-35.04
La Rochelle Gifts	118200.00	116949.68	1250.32	1.07
Baane Mini Imports	81700.00	104224.79	-22524.79	-21.61
Mini Gifts Distributors Ltd.	210500.00	584188.24	-373688.24	-63.97
Havel & Zbyszek Co	0.00	NULL	NULL	NULL
Blauer See Auto, Co.	59700.00	75937.76	-16237.76	-21.38
Mini Wheels Co.	64600.00	66710.56	-2110.56	-3.16
Land of Toys Inc.	114900.00	107639.94	7260.06	6.74
Euro+ Shopping Channel	227600.00	715738.98	-488138.98	-68.20
Volvo Model Replicas, Co	53100.00	43680.65	9419.35	21.56
Danish Wholesale Imports	83400.00	107446.50	-24046.50	-22.38
Saveley & Henriot, Co.	123900.00	130305.35	-6405.35	-4.92
Dragon Souvenirs, Ltd.	103800.00	156251.03	-52451.03	-33.57
Muscle Machine Inc	138500.00	177913.95	-39413.95	-22.15
Diecast Classics Inc.	100600.00	98509.25	2090.75	2.12
Technics Stores Inc.	84600.00	104545.22	-19945.22	-19.08
Handji Gifts & Co	97900.00	105420.57	-7520.57	-7.13
Herkku Gifts	96800.00	97562.47	-762.47	-0.78
American Souvenirs Inc	0.00	NULL	NULL	NULL
Porto Imports Co.	0.00	NULL	NULL	NULL
Daedalus Designs Imports	82900.00	61781.70	21118.30	34.18
La Corne D'abondance, Co.	84300.00	86553.52	-2253.52	-2.60
Cambridge Collectables Co.	43400.00	32198.69	11201.31	34.79

Result 124 x

8. Find the top performing sales agent, revenue generated and total number of customers for each of them individually, create this as a view

orderdetails x

Limit to 2000 rows

```
66 group by customerName ;
67
68 • select distinct a.salesRepEmployeeNumber,a.customerNumber,
69 sum(b.amount) as"total sales"
70 from customers as a
71 left join payments as b on a.customerNumber=b.customerNumber
72 group by a.salesRepEmployeeNumber,b.customerNumber ;
73
```

Result Grid

Filter Rows:  Export:  Wrap Cell Content:

salesRepEmployeeNumber	customerNumber	total sales
NULL	125	NULL
1165	124	584188.24
1165	129	66710.56
1165	161	104545.22
1165	321	132340.78
1165	450	59551.38
1165	487	42570.37
1166	112	80180.98
1166	205	93803.30
1166	219	7918.60
1166	239	80375.24
1166	347	41506.19
1166	475	43748.72
1188	173	32198.69
1188	204	55577.26
1188	320	101872.52
1188	339	57939.34
1188	379	73533.65
1188	495	65541.74
1216	157	98509.25
1216	198	21554.26
1216	286	90545.37
1216	362	33533.47
1216	363	116449.29
1216	462	88627.49



9. Find out the profit for each product on the basis on buy price and sell price and find the overall profit for all the inventory in stock also find if the stock will be sufficient for the next one year based on the previous purchase pattern

```

75
76 • select a.productName,(a.MSRP-a.buyPrice) as "profit for each item",(a.quantityInStock*(a.MSRP-a.buyPrice)) as "profit of stock",
77      (a.quantityInStock-sum(quantityOrdered)) as "estimation for next year"
78 from products as a
79 left join orderdetails as b on a.productCode=b.productCode
80 group by a.productName_;
81
82

```

productName	profit for each item	profit of stock	estimation for next year
1969 Harley Davidson Ultimate Chopper	46.89	371978.37	6876
1952 Alpine Renault 1300	115.72	845334.60	6344
1996 Moto Guzzi 1100i	49.95	330918.75	5626
2003 Harley-Davidson Eagle Drag Bike	102.64	572936.48	4597
1972 Alfa Romeo GTA	50.32	163640.64	2222
1962 LanciaA Delta 16V	44.32	300977.12	5859
1968 Ford Mustang	99.23	6747.64	-865
2001 Ferrari Enzo	112.21	406087.99	2600
1958 Setra Bus	58.77	92797.83	607
2002 Suzuki XREO	84.35	843246.95	8969
1969 Corvair Monza	61.94	427757.64	5943
1968 Dodge Charger	42.28	385720.44	8198
1969 Ford Falcon	89.97	94378.53	84
1970 Plymouth Hemi Cuda	47.88	271144.44	4763
1957 Chevy Pickup	62.80	384650.00	5069
1969 Dodge Charger	56.43	413236.89	6331
1940 Ford Pickup Truck	58.34	152442.42	1614
1993 Mazda RX-7	58.03	230669.25	3028
1937 Lincoln Berline	42.12	366149.16	7582
1936 Mercedes-Benz 500K Special Roa...	29.65	256027.75	7675
1965 Aston Martin DB5	58.48	528776.16	8128
1980s Black Hawk Helicopter	80.42	428638.60	4290
1917 Grand Touring Sedan	83.30	226909.20	1806
1948 Porsche 356-A Roadster	23.10	203880.60	7854
1995 Honda Civic	48.36	472573.92	8855

10. Find out the most frequently used fields across all the tables and create indexes for each of the tables

11. Create one overall view with a Customer Full Contact Name, customer country, Sales Representative Name, credit limit, overall purchase value of the customer, Product line bought, actual buying price of the product.

```

83 • select concat(a.contactFirstName, " ", a.contactLastName) as "contact full name",
84 a.country,
85 concat(b.firstName, " ", lastName) as "sales Rep",
86 a.creditLimit,
87 sum(c.amount) as "total purchase amount",
88 group_concat(distinct(f.productLine)) as "product line bought"
89 from customers as a
90 left join employees as b on a.salesRepEmployeeNumber=b.employeeNumber
91 left join payments as c on a.customerNumber=c.customerNumber
92 left join orders as d on a.customerNumber=d.customerNumber
93 left join orderdetails as e on d.orderNumber=e.orderNumber
94 left join products as f on e.productCode=f.productCode
95 group by concat(a.contactFirstName, " ", a.contactLastName) ;
96
97

```

Result Grid						
Filter Rows: <input type="text"/> Export:  Wrap Cell Content: <a href="#">F.A</a>						
	contact full name	country	sales Rep	creditLimit	total purchase amount	product line bought
▶	Adrian Huxley	Australia	Andy Fixter	93300.00	4216158.06	Classic Cars, Motorcycles, Planes, Ships, Trucks a...
	Akiko Shimamura	Japan	Mami Nishi	94400.00	3377559.36	Classic Cars, Motorcycles, Planes, Ships, Trains, Tr...
	Alejandra Camino	Spain	NULL	0.00	NULL	NULL
	Alexander Feuer	Germany	NULL	0.00	NULL	NULL
	Alexander Semenov	Russia	NULL	0.00	NULL	NULL
	Allen Nelson	USA	Julie Firrelli	70700.00	1764807.60	Classic Cars, Planes, Ships, Vintage Cars
	Ann Brown	UK	Larry Bott	77000.00	2094474.98	Classic Cars, Planes, Ships, Trucks and Buses, Vint...
	Anna O'Hara	Australia	Andy Fixter	107800.00	6303574.12	Classic Cars, Motorcycles, Trucks and Buses, Vint...
	Annette Roulet	France	Gerard Hernandez	61100.00	1209667.20	Classic Cars, Planes, Ships, Vintage Cars
	Armand Kuger	South Africa	NULL	0.00	NULL	NULL
	Arnold Cruz	Philippines	Mami Nishi	81500.00	2274175.80	Classic Cars, Motorcycles, Planes, Vintage Cars
	Ben Calaghan	Australia	Andy Fixter	51600.00	827852.40	Classic Cars, Motorcycles, Planes, Trains, Trucks a...
	Bradley Schuyler	Netherlands	NULL	0.00	NULL	NULL
	Braun Urs	Switzerland	Martin Gerard	0.00	NULL	NULL
	Brian Chandler	USA	Leslie Thompson	57700.00	581086.66	Classic Cars, Planes, Ships, Vintage Cars