

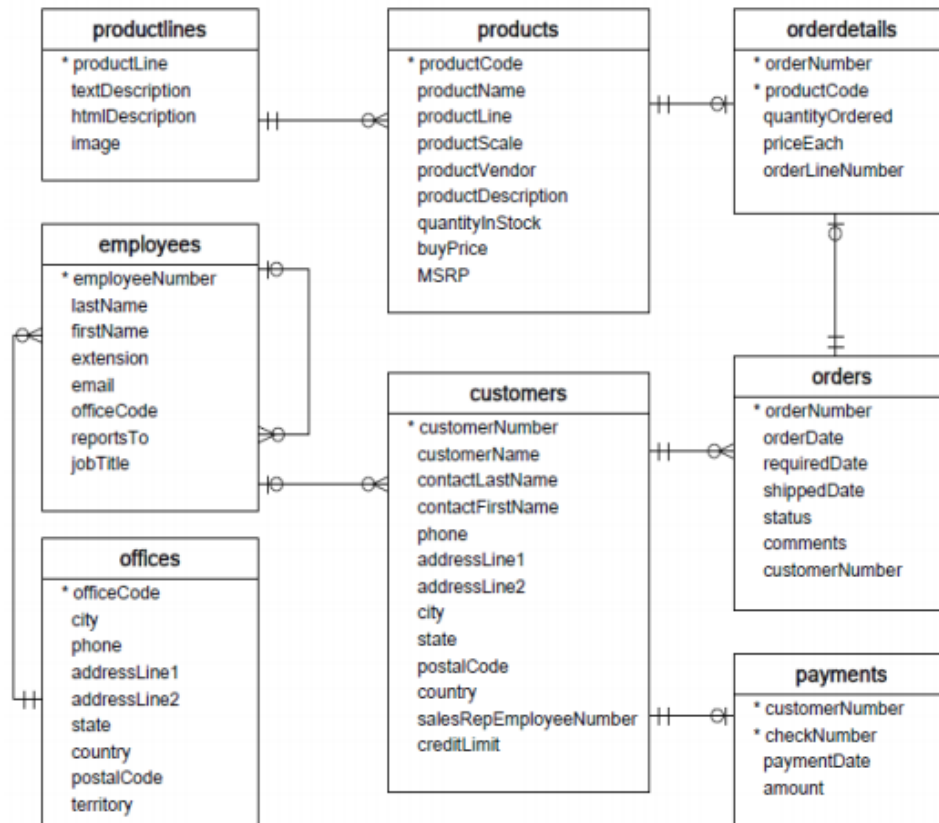


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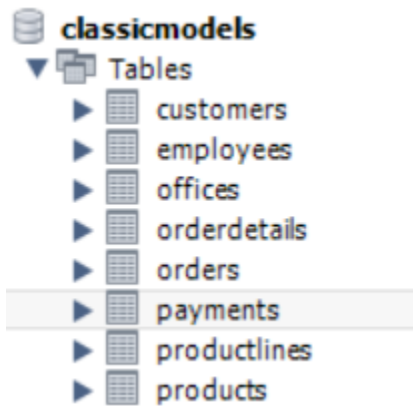
**SCSP5023 - Big Data Management**  
**Lab Exercise 3 SQL**  
Section 1

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1. Download the **databaseexample.db** from e-learning and run the script. Run the databaseexample2script. The database schema is as following figure. Do some basic queries in order to explore the data kept in the database.



Output



2. Assume you have been assigned by the management to provide them some report as follows:  
a) Count the Number of employees that work in the same city in descending order

Number_of Employee	City
6	San Francisco
5	Paris
2	Boston
:	

```
SELECT
city,
COUNT(employeeNumber) headcount
FROM
employees e
INNER JOIN offices o ON o.officeCode = e.officeCode
GROUP BY city
ORDER BY city DESC;
```

	city	headcount
▶	Tokyo	2
	Sydney	4
	San Francisco	6
	Paris	5
	NYC	2
	London	2
	Boston	2

- b) Find the average credit limit of customer.

```
SELECT AVG(creditLimit)
FROM customers;
```

	AVG(creditLimit)
▶	67659.016393

67658.0163

c) List the customer name that has a credit limit more than the average credit limit.

```
SELECT customerName, creditLimit
FROM customers
WHERE creditLimit > 67658.0163;
```

customerName	creditLimit
Signal Gift Stores	71800.00
Australian Collectors, Co.	117300.00
La Rochelle Gifts	118200.00
Baane Mini Imports	81700.00
Mini Gifts Distributors Ltd.	210500.00
Land of Toys Inc.	114900.00
Euro+ Shopping Channel	227600.00
Danish Wholesale Imports	83400.00
Saveley & Henriot, Co.	123900.00
Dragon Souvenirs, Ltd.	103800.00
Muscle Machine Inc	138500.00
Diecast Classics Inc.	100600.00
Technics Stores Inc.	84600.00
Handji Gifts & Co	97900.00
Herkku Gifts	96800.00

d) List of customer name serve by the sales representative as the following format.

Customer_Name	Contact	Salesperson_name	Position
Mini Gift Distributors Ltd	xxxx	Leslie	Sales Rep
:			
Technics Stores Inc	xxxxx	Leslie	Sales Rep
DieCast Collectables	xxxxx	Julie	Sales rep
:			

```
SELECT customerName, phone , salesRepEmployeeNumber, employeeNumber
FROM customers c
INNER JOIN employees e ON c.salesRepEmployeeNumber = e.employeeNumber;
```

customerName	phone	salesRepEmployeeNumber	employeeNumber
Atelier graphique	40.32.2555	1370	1370
Signal Gift Stores	7025551838	1166	1166
Australian Collectors, Co.	03 9520 4555	1611	1611
La Rochelle Gifts	40.67.8555	1370	1370
Baane Mini Imports	07-98 9555	1504	1504
Mini Gifts Distributors Ltd.	4155551450	1165	1165
Blauer See Auto, Co.	+49 69 66 90 2555	1504	1504
Mini Wheels Co.	6505555787	1165	1165
Land of Toys Inc.	2125557818	1323	1323
Euro+ Shopping Channel	(91) 555 94 44	1370	1370
Volvo Model Replicas, Co	0921-12 3555	1504	1504
Danish Wholesale Imports	31 12 3555	1401	1401
Saveley & Henriot, Co.	78.32.5555	1337	1337
Dragon Souvenirs, Ltd.	+65 221 7555	1621	1621
Muscle Machine Inc	2125557413	1286	1286

e) Count the number of customers served by each the sales representative in the company

Number_of_Customer	Saleperson_name
12	Leslie
6	Julie

```
SELECT
COUNT(customerNumber) count,firstName as Salesperson_name
FROM
employees e
INNER JOIN customers c ON c.salesRepEmployeeNumber = e.employeeNumber
GROUP BY
e.employeeNumber
ORDER BY
COUNT(customerNumber);
```

	count	Salesperson_name
▶	5	Andy
	5	Peter
	5	Mami
	6	Leslie
	6	Leslie
	6	Julie
	6	Steve
	6	Loui
	6	Martin
	7	Foon Yue
	7	Gerard
	8	George
	8	Larry
	9	Barry
	10	Pamela

f) In order to award the sales person, the company would like to know the sales person that serves more than 10 customers.

```
SELECT
COUNT(customerNumber) count,firstName as Salesperson_name
FROM
employees e
INNER JOIN customers c ON c.salesRepEmployeeNumber = e.employeeNumber
GROUP BY
e.employeeNumber
HAVING count>=10
ORDER BY
COUNT(customerNumber);
```

	count	Salesperson_name
▶	10	Pamela

g) Find the monthly quantity order by each product according to the following format.  
(hint : use function month(date), year date in SQL),

Product_Name	Quantity_Order	Month_sale	Year_sale
1917 Grand Touring Sedan	97	1	2003
:			
1932 Model A Ford J-Coupe	79	1	2003
:	:	:	:
XXXX	XXXXXX	12	2003
XXXX	XXXXXX	1	2004
:			
XXXXXX	XXXXXX	12	2004

```
SELECT
products.productName as Product_Name,
orderdetails.quantityOrdered as Quantity_Order,
MONTH(orderDate) as Month_sale,
YEAR(orderDate) as Year_sale
FROM ((orders
INNER JOIN orderdetails ON orders.orderNumber = orderdetails.orderNumber)
INNER JOIN products ON orderdetails.productCode = products.productCode);
```

	Product_Name	Quantity_Order	Month_sale	Year_sale
▶	1969 Harley Davidson Ultimate Chopper	30	2	2003
	1969 Harley Davidson Ultimate Chopper	34	5	2003
	1969 Harley Davidson Ultimate Chopper	41	7	2003
	1969 Harley Davidson Ultimate Chopper	45	8	2003
	1969 Harley Davidson Ultimate Chopper	49	10	2003
	1969 Harley Davidson Ultimate Chopper	36	10	2003
	1969 Harley Davidson Ultimate Chopper	29	11	2003
	1969 Harley Davidson Ultimate Chopper	48	11	2003
	1969 Harley Davidson Ultimate Chopper	22	12	2003
	1969 Harley Davidson Ultimate Chopper	41	1	2004
	1969 Harley Davidson Ultimate Chopper	37	2	2004
	1969 Harley Davidson Ultimate Chopper	23	4	2004
	1969 Harley Davidson Ultimate Chopper	59	5	2004
	1969 Harley Davidson Ultimate Chopper	34	6	2004
	1969 Harley Davidson Ultimate Chopper	45	7	2004

h) Assuming attribute MSRP in products table is the sales price of each product. List the product that have profit >50

```
SELECT productName,MSRP
from products
where MSRP > 50;
```

	productName	MSRP
	1962 City of Detroit Streetcar	58.58
	2002 Yamaha YZR M1	81.36
	The Schooner Bluenose	66.67
	American Airlines: B767-300	91.34
	The Mayflower	86.61
	HMS Bounty	90.52
	America West Airlines B757-200	99.72
	The USS Constitution Ship	72.28
	1982 Camaro Z28	101.15
	ATA: B757-300	118.65
	F/A 18 Hornet 1/72	80.00
	The Titanic	100.17
	The Queen Mary	99.31
	American Airlines: MD-11S	74.03
	Pont Yacht	54.60

i) The management want to send the invoice with total amount (calculate based quantity order x price) for each order to customer as follows

Customer Name	Order Number	Total Amount
XXXXX	XXXXX	XXXXXX

```

SELECT
customers.customerName as Customer_Name,
orders.orderNumber as Order_Number,
payments.amount as TotalAmount
FROM ((customers
INNER JOIN orders ON customers.customerNumber = orders.customerNumber)
INNER JOIN payments ON customers.customerNumber = payments.customerNumber);

```

	Customer_Name	Order_Number	TotalAmount
►	Atelier graphique	10123	6066.78
	Atelier graphique	10298	6066.78
	Atelier graphique	10345	6066.78
	Atelier graphique	10123	14571.44
	Atelier graphique	10298	14571.44
	Atelier graphique	10345	14571.44
	Atelier graphique	10123	1676.14
	Atelier graphique	10298	1676.14
	Atelier graphique	10345	1676.14
	Signal Gift Stores	10124	14191.12
	Signal Gift Stores	10278	14191.12
	Signal Gift Stores	10346	14191.12
	Signal Gift Stores	10124	32641.98
	Signal Gift Stores	10278	32641.98
	Signal Gift Stores	10346	32641.98
	Signal Gift Stores	10124	33347.88
	Signal Gift Stores	10278	33347.88
	Signal Gift Stores	10346	33347.88
	Australian Collec...	10120	45864.03
	Australian Collec...	10125	45864.03
	Australian Collec...	10223	45864.03



j) Find the subtotal of quantity in stock for each product line according to product vendor

Line	Vendor	Stock
Classic Car	Autoaart	68
Classic Car	Exoto Design	3442
:		
Motorcyle	Autoart	7603
:		

```

SELECT
productLine, productVendor, quantityInStock
FROM products
ORDER BY productLine, productVendor;

```

	productLine	productVendor	quantityInStock
►	Classic Cars	Autoart Studio Design	68
	Classic Cars	Carousel DieCast Legends	8197
	Classic Cars	Carousel DieCast Legends	2542
	Classic Cars	Carousel DieCast Legends	6934
	Classic Cars	Classic Metal Creations	7305
	Classic Cars	Classic Metal Creations	9042
	Classic Cars	Classic Metal Creations	1249
	Classic Cars	Classic Metal Creations	2350
	Classic Cars	Classic Metal Creations	6600
	Classic Cars	Classic Metal Creations	7869
	Classic Cars	Exoto Designs	1452
	Classic Cars	Exoto Designs	4695
	Classic Cars	Exoto Designs	6582
	Classic Cars	Gearbox Collectibles	8826
	Classic Cars	Gearbox Collectibles	4724
	Classic Cars	Gearbox Collectibles	9127
	Classic Cars	Gearbox Collectibles	8800

k) Rank the Product buyPrice according to the vendor

```
SELECT productVendor, buyPrice,  
RANK() OVER (ORDER BY buyPrice) buyPrice  
FROM products;
```

	productVendor	buyPrice	buyPrice
►	Carousel DieCast Legends	15.91	1
	Second Gear Diecast	16.24	2
	Classic Metal Creations	20.61	3
	Red Start Diecast	21.75	4
	Motor City Art Classics	22.57	5
	Studio M Art Models	23.14	6
	Gearbox Collectibles	24.14	7
	Welly Diecast Productions	24.23	8
	Studio M Art Models	24.26	9
	Carousel DieCast Legends	24.92	10
	Classic Metal Creations	25.98	11
	Autoart Studio Design	26.30	12
	Gearbox Collectibles	26.72	13
	Studio M Art Models	27.06	14
	Carousel DieCast Legends	29.18	15
	Second Gear Diecast	29.34	16
	Studio M Art Models	31.92	17
	Classic Metal Creations	32.33	18
	Highway 66 Mini Classics	32.37	19
	Motor City Art Classics	32.77	20
	Studio M Art Models	32.95	21
	Highway 66 Mini Classics	33.02	22
	Motor City Art Classics	33.30	23