1. **Afficher la liste des tables de la base de données**

```
SHOW TABLES;
```

Tables_in_classicmodels
customers
employees
offices
orderdetails
orders
payments
productlines
products

2. **Afficher la liste des champs de la table `employees`**

```
DESCRIBE employees;
```

Field	Type	Null	Key	Default	Extra
employeeNumber	int(11)	NO	PRI	NULL	
lastName	varchar(50)	NO		NULL	
firstName	varchar(50)	NO		NULL	
extension	varchar(10)	NO		NULL	
email	varchar(100)	NO		NULL	
officeCode	varchar(10)	NO	MUL	NULL	
reportsTo	int(11)	YES	MUL	NULL	
jobTitle	varchar(50)	NO		NULL	

LMD (Data Manipulation Language) - MonoTable

3. Tous les employés

```sql
SELECT * FROM `employees` WHERE 1;
```

employeeNumber	lastName	firstName	extension	email	officeCode	reportsTo	jobTitle
1002	Murphy	Diane	x5800	dmurphy@classicmodelcars.com	1	NULL	President
1056	Patterson	Mary	x4611	mpatterso@classicmodelcars.com	1	1002	VP Sales
1076	Firrelli	Jeff	x9273	jfirrelli@classicmodelcars.com	1	1002	VP Marketing
1088	Patterson	William	x4871	wpatterson@classicmodelcars.com	6	1056	Sales Manager (APAC)
1102	Bondur	Gerard	x5408	gbondur@classicmodelcars.com	4	1056	Sale Manager (EMEA)
1143	Bow	Anthony	x5428	abow@classicmodelcars.com	1	1056	Sales Manager (NA)
1165	Jennings	Leslie	x3291	ljennings@classicmodelcars.com	1	1143	Sales Rep
1166	Thompson	Leslie	x4065	lthompson@classicmodelcars.com	1	1143	Sales Rep
1188	Firrelli	Julie	x2173	jfirrelli@classicmodelcars.com	2	1143	Sales Rep
1216	Patterson	Steve	x4334	spatterson@classicmodelcars.com	2	1143	Sales Rep
1286	Tseng	Foon Yue	x2248	ftseng@classicmodelcars.com	3	1143	Sales Rep
1323	Vanauf	George	x4102	gvanauf@classicmodelcars.com	3	1143	Sales Rep
1337	Bondur	Loui	x6493	lbondur@classicmodelcars.com	4	1102	Sales Rep
1370	Hernandez	Gerard	x2028	ghernande@classicmodelcars.com	4	1102	Sales Rep
1401	Castillo	Pamela	x2759	pcastillo@classicmodelcars.com	4	1102	Sales Rep
1501	Bott	Larry	x2311	lbott@classicmodelcars.com	7	1102	Sales Rep
1504	Jones	Barry	x102	bjones@classicmodelcars.com	7	1102	Sales Rep
1611	Fixter	Andy	x101	afixter@classicmodelcars.com	6	1088	Sales Rep
1612	Marsh	Peter	x102	pmarsh@classicmodelcars.com	6	1088	Sales Rep
1619	King	Tom	x103	tking@classicmodelcars.com	6	1088	Sales Rep
1621	Nishi	Mami	x101	mnishi@classicmodelcars.com	5	1056	Sales Rep
1625	Kato	Yoshimi	x102	ykato@classicmodelcars.com	5	1621	Sales Rep
1702	Gerard	Martin	x2312	mgerard@classicmodelcars.com	4	1102	Sales Rep

4. Le nom et le prénom de tous les employés

```sql
SELECT lastName, firstName FROM employees;
```

lastName	firstName
Murphy	Diane
Patterson	Mary
Firrelli	Jeff
Patterson	William
Bondur	Gerard
Bow	Anthony
Jennings	Leslie
Thompson	Leslie
Firrelli	Julie
Patterson	Steve
Tseng	Foon Yue
Vanauf	George
Bondur	Loui
Hernandez	Gerard
Castillo	Pamela
Bott	Larry
Jones	Barry
Fixter	Andy
Marsh	Peter
King	Tom
Nishi	Mami
Kato	Yoshimi
Gerard	Martin

5. Le nom et la ville des clients

```
SELECT customerName, city FROM customers;
```

customerName	city
Atelier graphique	Nantes
Signal Gift Stores	Las Vegas
Australian Collectors, Co.	Melbourne
La Rochelle Gifts	Nantes
Baane Mini Imports	Stavern
Mini Gifts Distributors Ltd.	San Rafael
Havel & Zbyszek Co	Warszawa
Blauer See Auto, Co.	Frankfurt
Mini Wheels Co.	San Francisco
Land of Toys Inc.	NYC
Euro+ Shopping Channel	Madrid
Volvo Model Replicas, Co	Lule├Ñ

Danish Wholesale Imports	Kobenhavn
Saveley & Henriot, Co.	Lyon
Dragon Souveniers, Ltd.	Singapore
Muscle Machine Inc	NYC
Diecast Classics Inc.	Allentown
Technics Stores Inc.	Burlingame
Handji Gifts& Co	Singapore
Herkku Gifts	Bergen
American Souvenirs Inc	New Haven
Porto Imports Co.	Lisboa
Daedalus Designs Imports	Lille
La Corne D'abondance, Co.	Paris
Cambridge Collectables Co.	Cambridge

6. Les clients de France

```
SELECT * FROM customers WHERE country = 'France';
```

customerNumber	customerName	contactLastName	contactFirstName	phone	addressLine1	addressLine2	city	state	postalCode	country	salesRepEmployeeNumber	creditLimit
103	Atelier graphique	Schmitt	Carine	40.32.2555	54, rue Royale	NULL	Nantes	NULL	44000	France	1370	21000.00
119	La Rochelle Gifts	Labrune	Janine	40.67.8555	67, rue des Cinquante Otages	NULL	Nantes	NULL	44000	France	1370	118200.00
146	Saveley & Henriot, Co.	Saveley	Mary	78.32.5555	2, rue du Commerce	NULL	Lyon	NULL	69004	France	1337	123900.00
171	Daedalus Designs Imports	Ranc├®	Martine	20.16.1555	184, chauss├®e de Tournai	NULL	Lille	NULL	59000	France	1370	82900.00
172	La Corne D'abondance, Co.	Bertrand	Marie	(1) 42.34.2555	265, boulevard Charonne	NULL	Paris	NULL	75012	France	1337	84300.00
209	Mini Caravy	Citeaux	Fr├®d├®rique	88.60.1555	24, place Kl├®ber	NULL	Strasbourg	NULL	67000	France	1370	53800.00
242	Alpha Cognac	Roulet	Annette	61.77.6555	1 rue Alsace-Lorraine	NULL	Toulouse	NULL	31000	France	1370	61100.00
250	Lyon Souveniers	Da Silva	Daniel	+33 1 46 62 7555	27 rue du Colonel Pierre Avia	NULL	Paris	NULL	75508	France	1337	68100.00
256	Auto Associ├®s& Cie.	Tonini	Daniel	30.59.8555	67, avenue de l'Europe	NULL	Versailles	NULL	78000	France	1370	77900.00
350	Marseille Mini Autos	Lebihan	Laurence	91.24.4555	12, rue des Bouchers	NULL	Marseille	NULL	13008	France	1337	65000.00
353	Reims Collectables	Henriot	Paul	26.47.1555	59 rue de l'Abbaye	NULL	Reims	NULL	51100	France	1337	81100.00
406	Auto Canal+ Petit	Perrier	Dominique	(1) 47.55.6555	25, rue Lauriston	NULL	Paris	NULL	75016	France	1337	95000.00

7. Les clients dont la ville est Lyon, Paris ou Nantes

```
SELECT * FROM customers WHERE city IN ('Lyon', 'Paris', 'Nantes');
```

customerNumber	customerName	contactLastName	contactFirstName	phone	addressLine1	addressLine2	city	state	postalCode	country	salesRepEmployeeNumber	creditLimit
103	Atelier graphique	Schmitt	Carine	40.32.2555	54, rue Royale	NULL	Nantes	NULL	44000	France	1370	21000.00
119	La Rochelle Gifts	Labrune	Janine	40.67.8555	67, rue des Cinquante Otages	NULL	Nantes	NULL	44000	France	1370	118200.00
146	Saveley & Henriot, Co.	Saveley	Mary	78.32.5555	2, rue du Commerce	NULL	Lyon	NULL	69004	France	1337	123900.00
172	La Corne D'abondance, Co.	Bertrand	Marie	(1) 42.34.2555	265, boulevard Charonne	NULL	Paris	NULL	75012	France	1337	84300.00
250	Lyon Souveniers	Da Silva	Daniel	+33 1 46 62 7555	27 rue du Colonel Pierre Avia	NULL	Paris	NULL	75508	France	1337	68100.00
406	Auto Canal+ Petit	Perrier	Dominique	(1) 47.55.6555	25, rue Lauriston	NULL	Paris	NULL	75016	France	1337	95000.00

8. **La liste des clients dont le nom contient "SA."**

```sql
SELECT * FROM customers WHERE customerName LIKE '%SA.%';
```

customerNumber	customerName	contactLastName	contactFirstName	phone	addressLine1	addressLine2	city	state	postalCode	country	salesRepEmployeeNumber	creditLimit
145	Danish Wholesale Imports	Petersen	Jytte	31 12 3555	Vinb™flet 34	NULL	Kobenhavn	NULL	1734	Denmark	1401	83400.00
146	Saveley & Henriot, Co.	Saveley	Mary	78.32.5555	2, rue du Commerce	NULL	Lyon	NULL	69004	France	1337	123900.00
177	Osaka Souveniers Co.	Kentary	Mory	+81 06 6342 5555	1-6-20 Dojima	NULL	Kita-ku	Osaka	530-0003	Japan	1621	81200.00
356	SAR Distributors, Co	Kuger	Armand	+27 21 550 3555	1250 Pretorius Street	NULL	Hatfield	Pretoria	0028	South Africa	NULL	0.00
382	Salzburg Collectables	Pipps	Georg	6562-9555	Geislweg 14	NULL	Salzburg	NULL	5020	Austria	1401	71700.00

LMD (Data Manipulation Language) - Multi-tables

9. **La liste des clients et l'employé associé (nom du client et de l'employé)**

```sql
SELECT customers.customerName, employees.lastName

FROM customers JOIN employees ON customers.salesRepEmployeeNumber = employees.employeeNumber;
```

customerName	lastName
Mini Gifts Distributors Ltd.	Jennings
Mini Wheels Co.	Jennings
Technics Stores Inc.	Jennings
Corporate Gift Ideas Co.	Jennings
The Sharp Gifts Warehouse	Jennings
Signal Collectibles Ltd.	Jennings
Signal Gift Stores	Thompson
Toys4GrownUps.com	Thompson
Boards & Toys Co.	Thompson
Collectable Mini Designs Co.	Thompson
Men 'R' US Retailers, Ltd.	Thompson
West Coast Collectables Co.	Thompson
Cambridge Collectables Co.	Firrelli
Online Mini Collectables	Firrelli
Mini Creations Ltd.	Firrelli
Classic Gift Ideas, Inc	Firrelli
Collectables For Less Inc.	Firrelli
Diecast Collectables	Firrelli
Diecast Classics Inc.	Patterson
Auto-Moto Classics Inc.	Patterson
Marta's Replicas Co.	Patterson
Gifts4AllAges.com	Patterson
Online Diecast Creations Co.	Patterson
FunGiftIdeas.com	Patterson
Muscle Machine Inc	Tseng

10. Les clients avec leur pays et employé associé avec pays de son office

```sql
SELECT customers.customerName, customers.country
AS clientCountry, employees.lastName, offices.country AS officeCountry
FROM customers
JOIN employees ON customers.salesRepEmployeeNumber = employees.employeeNumber
JOIN offices ON employees.officeCode = offices.officeCode;
```

customerName	clientCountry	lastName	officeCountry
Mini Gifts Distributors Ltd.	USA	Jennings	USA
Mini Wheels Co.	USA	Jennings	USA
Technics Stores Inc.	USA	Jennings	USA
Corporate Gift Ideas Co.	USA	Jennings	USA
The Sharp Gifts Warehouse	USA	Jennings	USA
Signal Collectibles Ltd.	USA	Jennings	USA
Signal Gift Stores	USA	Thompson	USA
Toys4GrownUps.com	USA	Thompson	USA
Boards & Toys Co.	USA	Thompson	USA
Collectable Mini Designs Co.	USA	Thompson	USA
Men 'R' US Retailers, Ltd.	USA	Thompson	USA
West Coast Collectables Co.	USA	Thompson	USA
Cambridge Collectables Co.	USA	Firrelli	USA
Online Mini Collectables	USA	Firrelli	USA
Mini Creations Ltd.	USA	Firrelli	USA
Classic Gift Ideas, Inc	USA	Firrelli	USA
Collectables For Less Inc.	USA	Firrelli	USA
Diecast Collectables	USA	Firrelli	USA
Diecast Classics Inc.	USA	Patterson	USA
Auto-Moto Classics Inc.	USA	Patterson	USA
Marta's Replicas Co.	USA	Patterson	USA
Gifts4AllAges.com	USA	Patterson	USA
Online Diecast Creations Co.	USA	Patterson	USA
FunGiftIdeas.com	USA	Patterson	USA
Muscle Machine Inc	USA	Tseng	USA

11. Les employés subordonnés au "VP Marketing"

```sql
SELECT e.lastName, e.firstName, e.jobTitle FROM employees e WHERE e.jobTitle = 'VP Marketing';
```

lastName	firstName	jobTitle
Firrelli	Jeff	VP Marketing

12. La liste des "Sales Rep" aux USA

```sql
SELECT employees.lastName, employees.firstName, employees.jobTitle, offices.country FROM employees JOIN
offices ON employees.officeCode = offices.officeCode WHERE employees.jobTitle = 'Sales Rep' AND
offices.country = 'USA';
```

lastName	firstName	jobTitle	country
Jennings	Leslie	Sales Rep	USA
Thompson	Leslie	Sales Rep	USA
Firrelli	Julie	Sales Rep	USA
Patterson	Steve	Sales Rep	USA
Tseng	Foon Yue	Sales Rep	USA
Vanauf	George	Sales Rep	USA

13.

```sql
SELECT c.customerNumber AS ID_Client, c.customerName AS
Nom_Client, c.country AS Pays, CONCAT(e.firstName, ' ',
e.lastName) AS Employe, o.city AS Bureau
FROM customers c
LEFT JOIN employees e ON c.salesRepEmployeeNumber =
e.employeeNumber
LEFT JOIN offices o ON e.officeCode = o.officeCode
WHERE c.country = 'USA'
ORDER BY Nom_Client;
```

ID_Client	Nom_Client ▲ 1	Pays	Employe	Bureau
168	American Souvenirs Inc	USA	Foon Yue Tseng	NYC
198	Auto-Moto Classics Inc.	USA	Steve Patterson	Boston
219	Boards & Toys Co.	USA	Leslie Thompson	San Francisco
173	Cambridge Collectables Co.	USA	Julie Firrelli	Boston
339	Classic Gift Ideas, Inc	USA	Julie Firrelli	Boston
424	Classic Legends Inc.	USA	Foon Yue Tseng	NYC
239	Collectable Mini Designs Co.	USA	Leslie Thompson	San Francisco
379	Collectables For Less Inc.	USA	Julie Firrelli	Boston
321	Corporate Gift Ideas Co.	USA	Leslie Jennings	San Francisco
157	Diecast Classics Inc.	USA	Steve Patterson	Boston
495	Diecast Collectables	USA	Julie Firrelli	Boston
462	FunGiftIdeas.com	USA	Steve Patterson	Boston

Fonctions de regroupement

14. Le nombre de clients par pays

```
SELECT country, COUNT(*) AS ClientCount FROM customers GROUP BY country;
```

country	ClientCount
Australia	5
Austria	2
Belgium	2
Canada	3
Denmark	2
Finland	3
France	12
Germany	13
Hong Kong	1
Ireland	2
Israel	1
Italy	4
Japan	2

Netherlands	1
New Zealand	4
Norway	3
Philippines	1
Poland	1
Portugal	2
Russia	1
Singapore	3
South Africa	1
Spain	7
Sweden	2
Switzerland	3

15. Le nombre moyen de clients par pays

```
SELECT AVG(ClientCount) AS AverageClientsPerCountry FROM (SELECT country, COUNT(*) AS ClientCount FROM customers GROUP BY country) AS CountryCounts;
```

AverageClientsPerCountry
4.5185

16. Le nombre d'employés suivi par les employés selon leur JobTitle

```
SELECT jobTitle, COUNT(*) AS SubordinateCount
FROM employees
WHERE employeeNumber IN (SELECT reportsTo FROM employees)
GROUP BY jobTitle;
```

jobTitle	SubordinateCount
President	1
Sale Manager (EMEA)	1
Sales Manager (APAC)	1
Sales Manager (NA)	1
Sales Rep	1
VP Sales	1

17. Le montant des commandes par pays (client)

```sql
SELECT customers.country AS Pays, SUM(orderdetails.quantityOrdered *
orderdetails.priceEach) AS Montant_Total
FROM customers
JOIN orders ON customers.customerNumber = orders.customerNumber
JOIN orderdetails ON orders.orderNumber = orderdetails.orderNumber
GROUP BY customers.country
```

Pays	Montant_Total
Australia	562582.59
Austria	188540.06
Belgium	100068.76
Canada	205911.86
Denmark	218994.92
Finland	295149.35
France	1007374.02
Germany	196470.99
Hong Kong	45480.79
Ireland	49898.27
Italy	360616.81
Italy	360616.81
Japan	167909.95
New Zealand	476847.01
Norway	270846.30
Philippines	87468.30
Singapore	263997.78
Spain	1099389.09
Sweden	187638.35
Switzerland	108777.92
UK	436947.44
USA	3273280.05

18. Le montant des commandes par employé

```sql
SELECT e.employeeNumber AS ID_Employe, CONCAT(e.firstName, ' ',
e.lastName) AS Employe, COALESCE(SUM(od.quantityOrdered *
od.priceEach), 0) AS Montant_Total
FROM employees e
LEFT JOIN
customers c ON e.employeeNumber = c.salesRepEmployeeNumber
LEFT JOIN orders o ON c.customerNumber = o.customerNumber
LEFT JOIN orderdetails od ON o.orderNumber = od.orderNumber
GROUP BY e.employeeNumber, Employe
ORDER BY Montant_Total DESC;
```

ID_Employe	Employe	Montant_Total ▾ 1
1370	Gerard Hernandez	1258577.81
1165	Leslie Jennings	1081530.54
1401	Pamela Castillo	868220.55
1501	Larry Bott	732096.79
1504	Barry Jones	704853.91
1323	George Vanauf	669377.05
1612	Peter Marsh	584593.76
1337	Loui Bondur	569485.75
1611	Andy Fixter	562582.59
1216	Steve Patterson	505875.42
1286	Foon Yue Tseng	488212.67
1621	Mami Nishi	457110.07
1702	Martin Gerard	387477.47
1188	Julie Firrelli	386663.20
1166	Leslie Thompson	347533.03
1002	Diane Murphy	0.00
1088	William Patterson	0.00
1619	Tom King	0.00
1076	Jeff Firrelli	0.00
1143	Anthony Bow	0.00
1625	Yoshimi Kato	0.00
1056	Mary Patterson	0.00
1102	Gerard Bondur	0.00