Question1:
SELECT distinct city
FROM customers
where country = 'spain'
order by city;

city
Barcelona
Madrid
Sevilla

Question2:
SELECT employeeNumber, firstName, firstName
FROM employees
where officeCode in (
                    select officeCode
                    from offices
            where city = 'Paris')

employeeNumber	firstName	firstName
1102	Gerard	Gerard
1337	Loui	Loui
1370	Gerard	Gerard
1401	Pamela	Pamela
1702	Martin	Martin
NULL	NULL	NULL

Question3:
SELECT ProductCode, ProductName, ProductScale, ProductVendor, buyPrice
FROM products
where productline ='Motorcycles'
having buyPrice<80 AND buyPrice >50

ProductCode	ProductName	ProductScale	ProductVendor	buyPrice
S10_2016	1996 Moto Guzzi 1100i	1:10	Highway 66 Mini Classics	68.99
S12_2823	2002 Suzuki XREO	1:12	Unimax Art Galleries	66.27
S24_1578	1997 BMW R 1100 S	1:24	Autoart Studio Design	60.86
S32_1374	1997 BMW F650 ST	1:32	Exoto Designs	66.92
S32_4485	1974 Ducati 350 Mk3 Desmo	1:32	Second Gear Diecast	56.13

Question4:
SELECT productCode, productName, productLine, quantityInStock, MIN(buyPrice)
 FROM products
 where productLine='Vintage Cars'

productCode	productName	productLine	quantityInStock	MIN(buyPrice)
S18_1342	1937 Lincoln Berline	Vintage Cars	8693	20.61

Question5:
SELECT productName, productVendor, quantityinStock, quantityOrdered * priceEach as 'total cost'
FROM orderdetails o, products p
where o.productCode=p.productCode
order by quantityOrdered * priceEach desc limit 5;

productName	productVendor	quantityinStock	total cost
2003 Harley-Davidson Eagle Drag Bike	Red Start Diecast	5582	11503.14
1969 Dodge Charger	Welly Diecast Productions	7323	11170.52
1917 Grand Touring Sedan	Welly Diecast Productions	2724	10723.60
1968 Ford Mustang	Autoart Studio Design	68	10460.16
1952 Alpine Renault 1300	Classic Metal Creations	7305	10286.40

Question6:
SELECT customerNumber, customerName, phone, country, state, salesRepEmployeeNumber, creditLimit
FROM customers
where creditLimit>130000
order by creditLimit

customerNumber	customerName	phone	country	state	salesRepEmployeeNumber	creditLimit
187	AV Stores, Co.	(171) 555-1555	UK	NULL	1501	136800.00
151	Muscle Machine Inc	2125557413	USA	NY	1286	138500.00
298	Vida Sport, Ltd	0897-034555	Switzerland	NULL	1702	141300.00
124	Mini Gifts Distributors Ltd.	4155551450	USA	CA	1165	210500.00
141	Euro+ Shopping Channel	(91) 555 94 44	Spain	NULL	1370	227600.00
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Question7:
use classicmodels;
SELECT p.productCode, p.productName, quantityOrdered as 'OrderCount'
FROM orderdetails o, products p
where o.productCode=p.productCode AND p.productVendor='Welly Diecast Productions'
order by quantityOrdered ASC limit 1

productCode	productName	OrderCount
S12_4675	1969 Dodge Charger	97

Question8:
use classicmodels;
SELECT c.customerName, c.customerName, c.city, c.state, c.country, c.creditLimit, sum(quantityOrdered)
FROM customers c, orders o, orderdetails d
where c.customerNumber=o.customerNumber AND d.orderNumber=o.orderNumber
group by c.customerNumber

order by sum(quantityOrdered) desc limit 3

customerName	customerName	city	state	country	creditLimit	sum(quantityOrder...
Euro+ Shopping Channel	Euro+ Shopping Channel	Madrid	NULL	Spain	227600.00	9327
Mini Gifts Distributors Ltd.	Mini Gifts Distributors Ltd.	San Rafael	CA	USA	210500.00	6366
Australian Collectors, Co.	Australian Collectors, Co.	Melbourne	Victoria	Australia	117300.00	1926

Question9:
use classicmodels;
SELECT OfficeCode, city, state, country
FROM offices
where   NOT country= 'USA' AND addressLine2 is null

OfficeCode	city	state	country
4	Paris	NULL	France
5	Tokyo	Chiyoda-Ku	Japan

Question10:
use classicmodels;
SELECT productName, productLine
FROM products
WHERE   productName like '193%' AND productLine='Vintage Cars'

productName	productLine
1937 Lincoln Berline	Vintage Cars
1936 Mercedes-Benz 500K Special Roadster	Vintage Cars
1932 Model A Ford J-Coupe	Vintage Cars
1934 Ford V8 Coupe	Vintage Cars
1932 Alfa Romeo 8C2300 Spider Sport	Vintage Cars
1939 Cadillac Limousine	Vintage Cars
1939 Chevrolet Deluxe Coupe	Vintage Cars
1938 Cadillac V-16 Presidential Limousine	Vintage Cars
1937 Horch 930V Limousine	Vintage Cars
1936 Mercedes Benz 500k Roadster	Vintage Cars
1936 Chrysler Airflow	Vintage Cars
1930 Buick Marquette Phaeton	Vintage Cars

Question11.
use classicmodels;
SELECT orderNumber, orderDate, requiredDate, shippedDate, Extract(Month from shippedDate) as 'ship month', requiredDate-shippedDate as 'date difference'
FROM orders
where   requiredDate-shippedDate<3 AND YEAR(shippedDate)=2005;

orderNumber	orderDate	requiredDate	shippedDate	ship month	date difference
10363	2005-01-06	2005-01-12	2005-01-10	1	2
10373	2005-01-31	2005-02-08	2005-02-06	2	2
10388	2005-03-03	2005-03-11	2005-03-09	3	2
10389	2005-03-03	2005-03-09	2005-03-08	3	1
10395	2005-03-17	2005-03-24	2005-03-23	3	1
10402	2005-04-07	2005-04-14	2005-04-12	4	2
10408	2005-04-22	2005-04-29	2005-04-27	4	2
10411	2005-05-01	2005-05-08	2005-05-06	5	2
10416	2005-05-10	2005-05-16	2005-05-14	5	2
10417	2005-05-13	2005-05-19	2005-05-19	5	0

Question12:
use classicmodels;
SELECT c.customerNumber, c.customerName, c.city, c.country, count(o.orderNumber) as 'Orders'
FROM customers c, orders o
where c.customerNumber=o.customerNumber and c.customerNumber<150
group by c.customerNumber
order by count(o.orderNumber) desc

customerNumber	customerName	city	country	Orders
141	Euro+ Shopping Channel	Madrid	Spain	26
124	Mini Gifts Distributors Ltd.	San Rafael	USA	17
114	Australian Collectors, Co.	Melbourne	Australia	5
145	Danish Wholesale Imports	Kobenhavn	Denmark	5
148	Dragon Souveniers, Ltd.	Singapore	Singapore	5
119	La Rochelle Gifts	Nantes	France	4
121	Baane Mini Imports	Stavern	Norway	4
128	Blauer See Auto, Co.	Frankfurt	Germany	4
131	Land of Toys Inc.	NYC	USA	4
144	Volvo Model Replicas, Co	Luleå	Sweden	4
103	Atelier graphique	Nantes	France	3
112	Signal Gift Stores	Las Vegas	USA	3
129	Mini Wheels Co.	San Fran…	USA	3
146	Saveley & Henriot, Co.	Lyon	France	3

Question13:
use classicmodels;
SELECT c.customerNumber, c.customerName
FROM customers c
where c.customerNumber not in(
select customerNumber
        from payments)AND c.country='Switzerland '

customerNumber	customerName
293	BG&E Collectables
376	Precious Collectables
NULL	NULL

Question14:

use classicmodels;

use classicmodels;

SELECT sum(o.quantityOrdered), p.productLine

FROM orderdetails o, products p

where o.productCode=p.productCode

group by p.productLine

having sum(o.quantityOrdered)>12000

sum(o.quantityOrdere...	productLine
35582	Classic Cars
12778	Motorcycles
22933	Vintage Cars

Question 15:

CREATE TABLE if not exists TopCustomers (
   CustomerNumber int not null,
        OrderCount int not null,
   OrderTotal decimal(9,2) not null,
   ContactDate date not null,
   primary key (CustomerNumber)
);

Question16:

INSERT INTO TopCustomers (CustomerNumber, ContactDate, OrderCount, OrderTotal)
        select* from(select customerNumber ,curdate(),count(*),
sum(orderdetails.quantityOrdered* orderdetails.priceEach) as total from orders join orderdetails
        on orders.orderNumber=orderdetails.orderNumber group by customerNumber)as n
        where n.total>130000;

Question17:

select *

from TopCustomers

order by OrderTotal limit 5

CustomerNumber	OrderCount	OrderTotal	ContactDate
146	41	130305.35	2021-03-01
321	41	132340.78	2021-03-01
282	46	133907.12	2021-03-01
276	46	137034.22	2021-03-01
496	48	137460.79	2021-03-01
NULL	NULL	NULL	NULL

Question18:
ALTER TABLE TopCustomers2
ADD COLUMN CustomerRatings INT DEFAULT 0 AFTER ContactDate ;
Question19:
UPDATE TopCustomers2
SET CustomerRatings=RAND()*(11-1)+1
WHERE CustomerNumber IS NOT NULL;

	Time	Action	Response	Duration / Fetch Time
✓ 1	12:02:39	UPDATE TopCustomers2 SET CustomerRatings=RAND()*(11-1)+1 WHERE CustomerNumber IS NOT NULL	16 row(s) affected Rows matched: 16 Changed: 16 W...	0.0041 sec

Question20：

SELECT *
FROM TopCustomers2
ORDER BY CustomerRatings DESC;

CustomerNumber	OrderCount	OrderTotal	ContactDate	CustomerRatings
148	43	156251.03	2021-03-01	10
450	40	143536.27	2021-03-01	10
119	53	158573.12	2021-03-01	9
496	48	137460.79	2021-03-01	9
124	180	591827.34	2021-03-01	7
141	259	820689.54	2021-03-01	7
114	55	180585.07	2021-03-01	6
131	49	149085.15	2021-03-01	6
146	41	130305.35	2021-03-01	6
323	46	154622.08	2021-03-01	6
282	46	133907.12	2021-03-01	5
382	40	137480.07	2021-03-01	4
187	51	148410.09	2021-03-01	3
276	46	137034.22	2021-03-01	3
321	41	132340.78	2021-03-01	2
151	48	177913.95	2021-03-01	1
NULL	NULL	NULL	NULL	NULL

QUESTION21:
ALTER TABLE TopCustomers2
DROP COLUMN CustomerRatings;