1

```
mysql> desc employees;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| employeeNumber | int          | 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          | YES  | MUL | NULL    |       |
| jobTitle       | varchar(50)  | NO   |     | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

mysql>
```

2

mysql> Select * from employees;

3.

```
mysql> select lastname, firstname,jobtitle from employees;
+-----------+-----------+---------------------+
| lastname  | firstname | jobtitle            |
+-----------+-----------+---------------------+
| Murphy    | Diane     | President           |
| Patterson | Mary      | VP Sales            |
| Firrelli  | Jeff      | VP Marketing        |
| Patterson | William   | Sales Manager (APAC)|
| Bondur    | Gerard    | Sale Manager (EMEA) |
| Bow       | Anthony   | Sales Manager (NA)  |
| Jennings  | Leslie    | Sales Rep           |
| Thompson  | Leslie    | Sales Rep           |
| Firrelli  | Julie     | Sales Rep           |
| Patterson | Steve     | Sales Rep           |
| Tseng     | Foon Yue  | Sales Rep           |
| Vanauf    | George    | Sales Rep           |
| Bondur    | Loui      | Sales Rep           |
| Hernandez | Gerard    | Sales Rep           |
| Castillo  | Pamela    | Sales Rep           |
| Bott      | Larry     | Sales Rep           |
| Jones     | Barry     | Sales Rep           |
| Fixter    | Andy      | Sales Rep           |
| Marsh     | Peter     | Sales Rep           |
| King      | Tom       | Sales Rep           |
| Nishi     | Mami      | Sales Rep           |
| Kato      | Yoshimi   | Sales Rep           |
| Gerard    | Martin    | Sales Rep           |
+-----------+-----------+---------------------+
23 rows in set (0.00 sec)
```

4

```
mysql> desc Customers;
+----------------------+---------------+------+-----+---------+-------+
| Field                | Type          | Null | Key | Default | Extra |
+----------------------+---------------+------+-----+---------+-------+
| customerNumber       | int           | NO   | PRI | NULL    |       |
| customerName         | varchar(50)   | NO   |     | NULL    |       |
| contactLastName      | varchar(50)   | NO   |     | NULL    |       |
| contactFirstName     | varchar(50)   | NO   |     | NULL    |       |
| phone                | varchar(50)   | NO   |     | NULL    |       |
| addressLine1         | varchar(50)   | NO   |     | NULL    |       |
| addressLine2         | varchar(50)   | YES  |     | NULL    |       |
| city                 | varchar(50)   | NO   |     | NULL    |       |
| state                | varchar(50)   | YES  |     | NULL    |       |
| postalCode           | varchar(15)   | YES  |     | NULL    |       |
| country              | varchar(50)   | NO   |     | NULL    |       |
| salesRepEmployeeNumber | int         | YES  | MUL | NULL    |       |
| creditLimit          | decimal(10,2) | YES  |     | NULL    |       |
+----------------------+---------------+------+-----+---------+-------+
13 rows in set (0.00 sec)
```

5

mysql> select contactlastname, contactfirstname from customers order by contactlastname ;

6

mysql> select contactlastname, contactfirstname from customers order by contactlastname  desc;

7

mysql> select contactlastname, contactfirstname from customers order by contactlastname  desc, contactfirstname asc;

8

```
mysql> desc Orderdetails;
+-----------------+---------------+------+-----+---------+-------+
| Field           | Type          | Null | Key | Default | Extra |
+-----------------+---------------+------+-----+---------+-------+
| orderNumber     | int           | NO   | PRI | NULL    |       |
| productCode     | varchar(15)   | NO   | PRI | NULL    |       |
| quantityOrdered | int           | NO   |     | NULL    |       |
| priceEach       | decimal(10,2) | NO   |     | NULL    |       |
| orderLineNumber | smallint      | NO   |     | NULL    |       |
+-----------------+---------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

9

mysql> select ordernumber,priceeach as 'total price' from orderdetails order by  'total price' ;

10

```
mysql> select lastname, firstname,jobtitle from employees where jobtitle='Sales Rep';
+-----------+-----------+-----------+
| lastname  | firstname | jobtitle  |
+-----------+-----------+-----------+
| Jennings  | Leslie    | Sales Rep |
| Thompson  | Leslie    | Sales Rep |
| Firrelli  | Julie     | Sales Rep |
| Patterson | Steve     | Sales Rep |
| Tseng     | Foon Yue  | Sales Rep |
| Vanauf    | George    | Sales Rep |
| Bondur    | Loui      | Sales Rep |
| Hernandez | Gerard    | Sales Rep |
| Castillo  | Pamela    | Sales Rep |
| Bott      | Larry     | Sales Rep |
| Jones     | Barry     | Sales Rep |
| Fixter    | Andy      | Sales Rep |
| Marsh     | Peter     | Sales Rep |
| King      | Tom       | Sales Rep |
| Nishi     | Mami      | Sales Rep |
| Kato      | Yoshimi   | Sales Rep |
| Gerard    | Martin    | Sales Rep |
+-----------+-----------+-----------+
17 rows in set (0.00 sec)
```

11

```
mysql> select lastname, firstname,jobtitle,officecode from employees where jobtitle='Sales Rep' and officecode=1;
+----------+-----------+-----------+------------+
| lastname | firstname | jobtitle  | officecode |
+----------+-----------+-----------+------------+
| Jennings | Leslie    | Sales Rep | 1          |
| Thompson | Leslie    | Sales Rep | 1          |
+----------+-----------+-----------+------------+
2 rows in set (0.00 sec)
```

12

```
mysql> select customerName,country,state from customers where country='USA' and state='CA' and creditlimit > 100000;
+----------------------------+---------+-------+
| customerName               | country | state |
+----------------------------+---------+-------+
| Mini Gifts Distributors Ltd. | USA   | CA    |
| Collectable Mini Designs Co. | USA   | CA    |
| Corporate Gift Ideas Co.   | USA     | CA    |
+----------------------------+---------+-------+
3 rows in set (0.00 sec)
```

13

```
mysql> select  lastname, firstname , jobtitle, officecode from  employees where jobtitle='sales rep' or officecode=1 order by officecode and jobtitle;
+----------+----------+--------------------+------------+
| lastname | firstname | jobtitle          | officecode |
+----------+----------+--------------------+------------+
| Murphy   | Diane    | President          | 1          |
| Patterson| Mary     | VP Sales           | 1          |
| Firrelli | Jeff     | VP Marketing       | 1          |
| Bow      | Anthony  | Sales Manager (NA) | 1          |
| Jennings | Leslie   | Sales Rep          | 1          |
| Thompson | Leslie   | Sales Rep          | 1          |
| Firrelli | Julie    | Sales Rep          | 2          |
| Patterson| Steve    | Sales Rep          | 2          |
| Tseng    | Foon Yue | Sales Rep          | 3          |
| Vanauf   | George   | Sales Rep          | 3          |
| Bondur   | Loui     | Sales Rep          | 4          |
| Hernandez| Gerard   | Sales Rep          | 4          |
| Castillo | Pamela   | Sales Rep          | 4          |
| Bott     | Larry    | Sales Rep          | 7          |
| Jones    | Barry    | Sales Rep          | 7          |
| Fixter   | Andy     | Sales Rep          | 6          |
| Marsh    | Peter    | Sales Rep          | 6          |
| King     | Tom      | Sales Rep          | 6          |
| Nishi    | Mami     | Sales Rep          | 5          |
| Kato     | Yoshimi  | Sales Rep          | 5          |
| Gerard   | Martin   | Sales Rep          | 4          |
+----------+----------+--------------------+------------+
21 rows in set, 21 warnings (0.00 sec)
```

14

```
mysql> select customerName,country,state,creditlimit from customers where country in ('USA','france') and creditlimit > 100000;
+-----------------------------+---------+-------+-------------+
| customerName                | country | state | creditlimit |
+-----------------------------+---------+-------+-------------+
| La Rochelle Gifts           | France  | NULL  |   118200.00 |
| Mini Gifts Distributors Ltd.| USA     | CA    |   210500.00 |
| Land of Toys Inc.           | USA     | NY    |   114900.00 |
| Saveley & Henriot, Co.      | France  | NULL  |   123900.00 |
| Muscle Machine Inc          | USA     | NY    |   138500.00 |
| Diecast Classics Inc.       | USA     | PA    |   100600.00 |
| Collectable Mini Designs Co.| USA     | CA    |   105000.00 |
| Marta's Replicas Co.        | USA     | MA    |   123700.00 |
| Mini Classics               | USA     | NY    |   102700.00 |
| Corporate Gift Ideas Co.    | USA     | CA    |   105000.00 |
| Online Diecast Creations Co.| USA     | NH    |   114200.00 |
+-----------------------------+---------+-------+-------------+
11 rows in set (0.00 sec)
```

15

```
mysql> select  lastname, firstname , jobtitle, officecode from  employees where officecode between 1 and 3;
+----------+----------+--------------------+------------+
| lastname | firstname | jobtitle          | officecode |
+----------+----------+--------------------+------------+
| Murphy   | Diane    | President          | 1          |
| Patterson| Mary     | VP Sales           | 1          |
| Firrelli | Jeff     | VP Marketing       | 1          |
| Bow      | Anthony  | Sales Manager (NA) | 1          |
| Jennings | Leslie   | Sales Rep          | 1          |
| Thompson | Leslie   | Sales Rep          | 1          |
| Firrelli | Julie    | Sales Rep          | 2          |
| Patterson| Steve    | Sales Rep          | 2          |
| Tseng    | Foon Yue | Sales Rep          | 3          |
| Vanauf   | George   | Sales Rep          | 3          |
+----------+----------+--------------------+------------+
10 rows in set (0.00 sec)
```

16

```
mysql> select * from offices;
+------------+---------------+-----------------+--------------------------+--------------+------------+-----------+------------+-----------+
| officeCode | city          | phone           | addressLine1             | addressLine2 | state      | country   | postalCode | territory |
+------------+---------------+-----------------+--------------------------+--------------+------------+-----------+------------+-----------+
| 1          | San Francisco | +1 650 219 4782 | 100 Market Street        | Suite 300    | CA         | USA       | 94080      | NA        |
| 2          | Boston        | +1 215 837 0825 | 1550 Court Place         | Suite 102    | MA         | USA       | 02107      | NA        |
| 3          | NYC           | +1 212 555 3000 | 523 East 53rd Street     | apt. 5A      | NY         | USA       | 10022      | NA        |
| 4          | Paris         | +33 14 723 4404 | 43 Rue Jouffroy D'abbans | NULL         | NULL       | France    | 75017      | EMEA      |
| 5          | Tokyo         | +81 33 224 5000 | 4-1 Kioicho              | NULL         | Chiyoda-Ku | Japan     | 102-8578   | Japan     |
| 6          | Sydney        | +61 2 9264 2451 | 5-11 Wentworth Avenue    | Floor #2     | NULL       | Australia | NSW 2010   | APAC      |
| 7          | London        | +44 20 7877 2041| 25 Old Broad Street      | Level 7      | NULL       | UK        | EC2N 1HN   | EMEA      |
+------------+---------------+-----------------+--------------------------+--------------+------------+-----------+------------+-----------+
7 rows in set (0.00 sec)

mysql> select officecode,country from offices where country in ('usa','france');
+------------+---------+
| officecode | country |
+------------+---------+
| 1          | USA     |
| 2          | USA     |
| 3          | USA     |
| 4          | France  |
+------------+---------+
4 rows in set (0.00 sec)
```

17

```
mysql> select * from offices;
+------------+---------------+-----------------+--------------------------+--------------+------------+-----------+------------+-----------+
| officeCode | city          | phone           | addressLine1             | addressLine2 | state      | country   | postalCode | territory |
+------------+---------------+-----------------+--------------------------+--------------+------------+-----------+------------+-----------+
| 1          | San Francisco | +1 650 219 4782 | 100 Market Street        | Suite 300    | CA         | USA       | 94080      | NA        |
| 2          | Boston        | +1 215 837 0825 | 1550 Court Place         | Suite 102    | MA         | USA       | 02107      | NA        |
| 3          | NYC           | +1 212 555 3000 | 523 East 53rd Street     | apt. 5A      | NY         | USA       | 10022      | NA        |
| 4          | Paris         | +33 14 723 4404 | 43 Rue Jouffroy D'abbans | NULL         | NULL       | France    | 75017      | EMEA      |
| 5          | Tokyo         | +81 33 224 5000 | 4-1 Kioicho              | NULL         | Chiyoda-Ku | Japan     | 102-8578   | Japan     |
| 6          | Sydney        | +61 2 9264 2451 | 5-11 Wentworth Avenue    | Floor #2     | NULL       | Australia | NSW 2010   | APAC      |
| 7          | London        | +44 20 7877 2041| 25 Old Broad Street      | Level 7      | NULL       | UK        | EC2N 1HN   | EMEA      |
+------------+---------------+-----------------+--------------------------+--------------+------------+-----------+------------+-----------+
7 rows in set (0.00 sec)

mysql> select officecode,country from offices where country not in ('usa','france');
+------------+-----------+
| officecode | country   |
+------------+-----------+
| 5          | Japan     |
| 6          | Australia |
| 7          | UK        |
+------------+-----------+
3 rows in set (0.00 sec)
```

18

```
mysql> select distinct lastname from employees;
+-----------+
| lastname  |
+-----------+
| Murphy    |
| Patterson |
| Firrelli  |
| Bondur    |
| Bow       |
| Jennings  |
| Thompson  |
| Tseng     |
| Vanauf    |
| Hernandez |
| Castillo  |
| Bott      |
| Jones     |
| Fixter    |
| Marsh     |
| King      |
| Nishi     |
| Kato      |
| Gerard    |
+-----------+
19 rows in set (0.00 sec)
```

19

```
mysql> select lastname, firstname from employees where lastname like '%son';
+-----------+-----------+
| lastname  | firstname |
+-----------+-----------+
| Patterson | Mary      |
| Patterson | William   |
| Thompson  | Leslie    |
| Patterson | Steve     |
+-----------+-----------+
4 rows in set (0.00 sec)
```

20

```
mysql> select lastname, firstname from employees where lastname like 'a%';
Empty set (0.00 sec)
```

21

```
mysql> select lastname, firstname from employees where lastname like '%on%';
+-----------+-----------+
| lastname  | firstname |
+-----------+-----------+
| Patterson | Mary      |
| Patterson | William   |
| Bondur    | Gerard    |
| Thompson  | Leslie    |
| Patterson | Steve     |
| Bondur    | Loui      |
| Jones     | Barry     |
+-----------+-----------+
7 rows in set (0.00 sec)
```

22

```
mysql> select lastname, firstname from employees where firstname like 't%m';
+----------+-----------+
| lastname | firstname |
+----------+-----------+
| King     | Tom       |
+----------+-----------+
1 row in set (0.00 sec)
```

23

```
mysql> select customerNumber,customerName,creditlimit from customers order by creditlimit desc limit 5 ;
+----------------+----------------------------+-------------+
| customerNumber | customerName               | creditlimit |
+----------------+----------------------------+-------------+
|            141 | Euro+ Shopping Channel     |   227600.00 |
|            124 | Mini Gifts Distributors Ltd. |  210500.00 |
|            298 | Vida Sport, Ltd            |   141300.00 |
|            151 | Muscle Machine Inc         |   138500.00 |
|            187 | AV Stores, Co.             |   136800.00 |
+----------------+----------------------------+-------------+
5 rows in set (0.00 sec)
```

24

```
mysql> select customerNumber,customerName,creditlimit from customers order by creditlimit desc limit 1,1;
+----------------+----------------------------+-------------+
| customerNumber | customerName               | creditlimit |
+----------------+----------------------------+-------------+
|            124 | Mini Gifts Distributors Ltd. |  210500.00 |
+----------------+----------------------------+-------------+
1 row in set (0.00 sec)
```

```
mysql> select customerNumber,customerName,creditlimit,salesRepEmployeeNumber from customers where salesRepEmployeeNumber is null;
+----------------+----------------------------+-------------+------------------------+
| customerNumber | customerName               | creditlimit | salesRepEmployeeNumber |
+----------------+----------------------------+-------------+------------------------+
|            125 | Havel & Zbyszek Co         |        0.00 |                   NULL |
|            169 | Porto Imports Co.          |        0.00 |                   NULL |
|            206 | Asian Shopping Network, Co |        0.00 |                   NULL |
|            223 | Natⁿrlich Autos            |        0.00 |                   NULL |
|            237 | ANG Resellers              |        0.00 |                   NULL |
|            247 | Messner Shopping Network   |        0.00 |                   NULL |
|            273 | Franken Gifts, Co          |        0.00 |                   NULL |
|            293 | BG&E Collectables          |        0.00 |                   NULL |
|            303 | Schuyler Imports           |        0.00 |                   NULL |
|            307 | Der Hund Imports           |        0.00 |                   NULL |
|            335 | Cramer Spezialitñten, Ltd  |        0.00 |                   NULL |
|            348 | Asian Treasures, Inc.      |        0.00 |                   NULL |
|            356 | SAR Distributors, Co       |        0.00 |                   NULL |
|            361 | Kommission Auto            |        0.00 |                   NULL |
|            369 | Lisboa Souveniers, Inc     |        0.00 |                   NULL |
|            409 | Stuttgart Collectable Exchange |    0.00 |                   NULL |
|            443 | Feuer Online Stores, Inc   |        0.00 |                   NULL |
|            459 | Warburg Exchange           |        0.00 |                   NULL |
|            465 | Anton Designs, Ltd.        |        0.00 |                   NULL |
|            477 | Mit Vergngen & Co.         |        0.00 |                   NULL |
|            480 | Kremlin Collectables, Co.  |        0.00 |                   NULL |
|            481 | Raanan Stores, Inc         |        0.00 |                   NULL |
+----------------+----------------------------+-------------+------------------------+
22 rows in set (0.00 sec)
```

mysql> select customerNumber,customerName,creditlimit,salesRepEmployeeNumber from customers where salesRepEmployeeNumber is not null;

```
mysql> select count(distinct productLine) from products;
+-----------------------------+
| count(distinct productLine) |
+-----------------------------+
|                           7 |
+-----------------------------+
1 row in set (0.00 sec)
```

```
mysql> select productLine,count(*) from products group by productline having count(*)=9;
+-------------+----------+
| productLine | count(*) |
+-------------+----------+
| Ships       |        9 |
+-------------+----------+
1 row in set (0.00 sec)
```

29

```
mysql> select avg(buyprice) from products;
+---------------+
| avg(buyprice) |
+---------------+
|     54.395182 |
+---------------+
1 row in set (0.00 sec)
```

30

```
mysql> select productline,avg(buyprice) from products group by productline having productline like "Classic Cars";
+--------------+---------------+
| productline  | avg(buyprice) |
+--------------+---------------+
| Classic Cars |     64.446316 |
+--------------+---------------+
1 row in set (0.00 sec)
```

31

```
mysql> select productline,avg(buyprice) from products group by productline;
+------------------+---------------+
| productline      | avg(buyprice) |
+------------------+---------------+
| Classic Cars     |     64.446316 |
| Motorcycles      |     50.685385 |
| Planes           |     49.629167 |
| Ships            |     47.007778 |
| Trains           |     43.923333 |
| Trucks and Buses |     56.329091 |
| Vintage Cars     |     46.066250 |
+------------------+---------------+
7 rows in set (0.00 sec)
```

32

```
mysql> select productline,avg(buyprice) from products group by productline having avg(buyprice)>50;
+------------------+---------------+
| productline      | avg(buyprice) |
+------------------+---------------+
| Classic Cars     |     64.446316 |
| Motorcycles      |     50.685385 |
| Trucks and Buses |     56.329091 |
+------------------+---------------+
3 rows in set (0.00 sec)
```

33

```
mysql> select count(*) from orderdetails;
+----------+
| count(*) |
+----------+
|     2996 |
+----------+
1 row in set (0.00 sec)
```

34

```
mysql> select distinct ordernumber,sum(priceeach*quantityOrdered) from orderdetails where ordernumber=10110 group by ordernumber;
+-------------+-------------------------------+
| ordernumber | sum(priceeach*quantityOrdered) |
+-------------+-------------------------------+
|       10110 |                      48425.69 |
+-------------+-------------------------------+
1 row in set (0.00 sec)
```

35

```
mysql> select distinct ordernumber,sum(priceeach*quantityOrdered) from orderdetails  group by ordernumber having sum(priceeach*quantityOrdered)>60000;

+-------------+-------------------------------+
| ordernumber | sum(priceeach*quantityOrdered) |
+-------------+-------------------------------+
|       10165 |                      67392.85 |
|       10287 |                      61402.00 |
|       10310 |                      61234.67 |
+-------------+-------------------------------+
3 rows in set (0.00 sec)
```

36

```
mysql> select max(amount) from payments;
+-------------+
| max(amount) |
+-------------+
|   120166.58 |
+-------------+
1 row in set (0.00 sec)
```

37

```
mysql> select customernumber,max(amount),year(paymentDate) from payments where year(paymentdate)=2004 group by year(paymentdate);
+----------------+-------------+-------------------+
| customernumber | max(amount) | year(paymentDate) |
+----------------+-------------+-------------------+
|            103 |   116208.40 |              2004 |
+----------------+-------------+-------------------+
1 row in set (0.00 sec)
```

38

mysql> select customernumber,max(amount) from payments group by customernumber;

39

```
mysql> select min(buyprice) from products;
+---------------+
| min(buyprice) |
+---------------+
|         15.91 |
+---------------+
1 row in set (0.00 sec)
```

40

```
mysql> select productline,min(buyprice) from products group by productline having min(buyprice)<21;
+--------------+---------------+
| productline  | min(buyprice) |
+--------------+---------------+
| Classic Cars |         15.91 |
| Vintage Cars |         20.61 |
+--------------+---------------+
2 rows in set (0.00 sec)
```

41

mysql> select concat(contactfirstName,' ',contactLastName) ContactName from customers;