**LAB TASK # 04**

**Submitted By:**

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ROLL # P16-6055

SECTION: CS16-A

**Submitted To:**

Sir Waqas Ali

**TASK # 01:**

**CREATING TABLES:**

**TABLE 1:**

CUSTOMER TABLE:

mysql> create table customer(

customerid int(10) PRIMARY KEY,

first\_name varchar(20) not null,

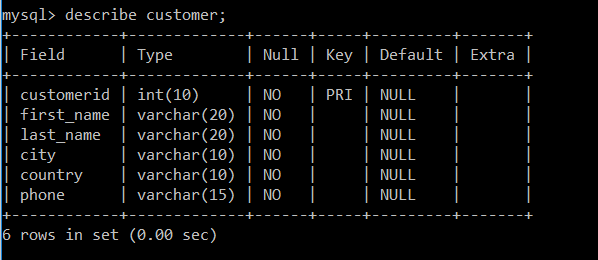
last\_name varchar(20) not null,

city varchar(20) not null,

country varchar(20) not null,

phone varchar(25) not null);

Query OK, 0 rows affected (0.11 sec)



**TABLE 2:**

ORDERS TABLE:

create table orders(

id int(10) PRIMARY KEY,

orderdate date not null,

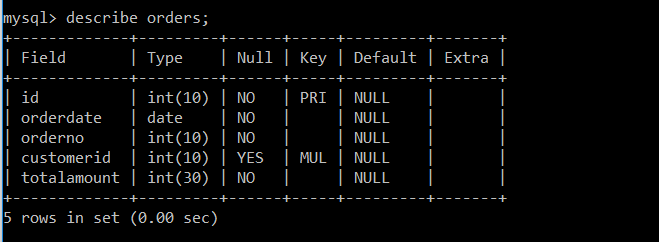
orderno int(10) not null,

customerid int(10),

totalamount int(30) not null,

constraint fk\_order\_customer FOREIGN KEY(customerid)

REFERENCES customer(customerid));



**INSERTING DATA INTO TABLE 1:**

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (111,'zain','ali','lahore','Pakistan','0312-1234567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (112,'Mahnoor','majid','Karachi','Pakistan','0312-1211567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values

(113,'Saim','saleem','firstcity ','Singapore','0312-1234467');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (114,'Abrar','ali','anterland','Austrailia','0312-1235567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (115,'waqas','ali','paracity','China','0312-1236667');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (116,'Saleem','akhtar','quanty','Africa','0312-1237767');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (117,'Zainab','Ijaz','reltin','England','0312-1238867');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (118,'Usman','Saleem','forke','Iran','0312-1239967');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (119,'Umer','Saleem','ilam','Dubai','0312-1234107');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (120,'Arbaz','Fakhar','Rahim-yar-khan','Pakistan','0312-1234117');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (121,'Shahzoona','Fakhar','firstcity','Singapore','0312-12321167');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (123,'Nayab','Fakhar','ilam','Dubai','0312-1234137');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (124,'Fatima','Fakhar','sampilan','Sri-lanka','0312-1144567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (125,'Iqra','Fakhar','aduka','Afghanistan','0312-1534567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (126,'Tehreem','Nadeem','waston','UK','0312-1216567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (127,'Ijaz','Saleem','RYK','Pakistan','0312-1217567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (128,'Fakhar','Saleem','RYK','Pakistan','0312-1184567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (129,'Nadeem','Akhtar','RYK','Pakistan','0312-1934567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (130,'Fozia','Saleem','RYK','Pakistan','0312-2034567');

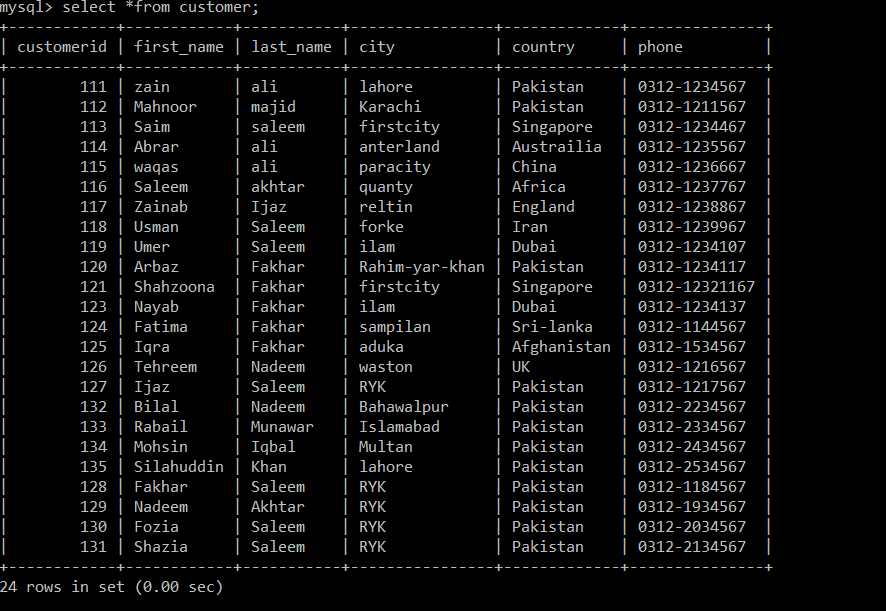
insert into customer(customerid,first\_name,last\_name,city,country,phone) values (131,'Shazia','Saleem','RYK','Pakistan','0312-2134567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (132,'Bilal','Nadeem','Bahawalpur','Pakistan','0312-2234567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (133,'Rabail','Munawar','Islamabad','Pakistan','0312-2334567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (134,'Mohsin','Iqbal','Multan','Pakistan','0312-2434567');

insert into customer(customerid,first\_name,last\_name,city,country,phone) values (135,'Silahuddin','Khan','lahore','Pakistan','0312-2534567');



**INSERTING DATA INTO TABLE 2:**

insert into orders(id,orderdate,orderno,customerid,totalamount) values (11,str\_to\_date('02,dec,14','%d,%b,%y'),1,116,1000);

insert into orders(id,orderdate,orderno,customerid,totalamount) values (12,str\_to\_date('03,dec,14','%d,%b,%y'),2,118,9000);

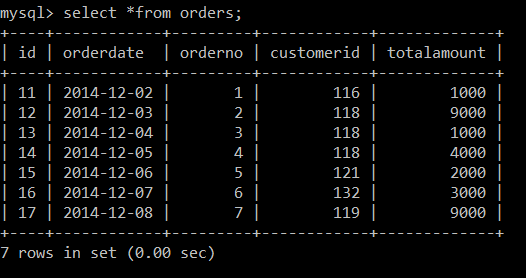
insert into orders(id,orderdate,orderno,customerid,totalamount) values (13,str\_to\_date('04,dec,14','%d,%b,%y'),3,118,1000);

insert into orders(id,orderdate,orderno,customerid,totalamount) values (14,str\_to\_date('05,dec,14','%d,%b,%y'),4,118,4000);

insert into orders(id,orderdate,orderno,customerid,totalamount) values (15,str\_to\_date('06,dec,14','%d,%b,%y'),5,121,2000);

insert into orders(id,orderdate,orderno,customerid,totalamount) values (16,str\_to\_date('07,dec,14','%d,%b,%y'),6,132,3000);

insert into orders(id,orderdate,orderno,customerid,totalamount) values (17,str\_to\_date('08,dec,14','%d,%b,%y'),7,119,9000);



**QUERIES:**

**1. List the number of customers in each country. Only include countries with more than 10**

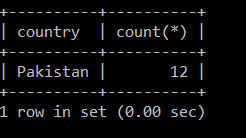
**customers**

mysql> select country, count(\*)

-> from customer

-> group by country

-> having count(\*)>10;



**2. List the number of customers in each country, except the USA, sorted high to low. Only include**

**countries with 9 or more customers**

mysql> select country,count(\*)

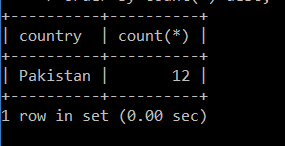
-> from customer

-> where country<>'USA'

-> group by country

-> having count(\*)>=9

-> order by count(\*) desc;



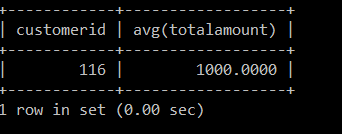
**3. List all CustomerId’s with average orders between $1000 and $1200.**

mysql> select customerid, avg(totalamount)

from orders,customer

group by customerid

having avg(totalamount) between 1000 and 1200;



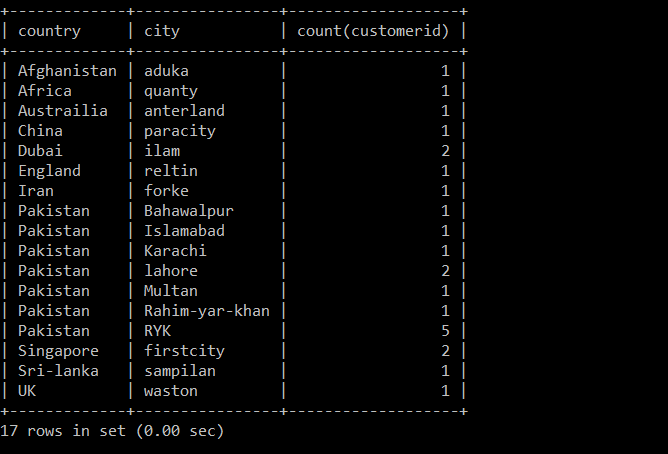
**4. List the total number of customers from each city in each country (Consider the fact that two**

**cities in different countries might have the same name).**

**mysql> select country,city,count(customerid)**

**-> from customer**

**-> group by country, city;**

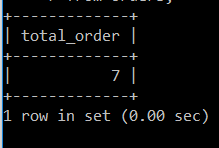


**5. List the sum of orders for each day in a particular week (e.g. sum of orders for each day (Monday**

**to Friday) for the first week of December).**

mysql> select max(orderno) as total\_order

-> from orders;

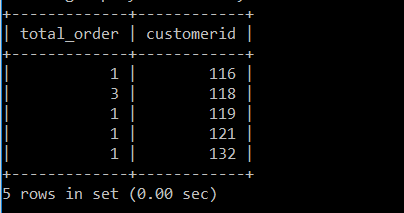


6. List the number of orders placed by each customer.

mysql> select count(\*) as total\_order,customerid

-> from orders

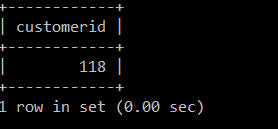
-> group by customerid;



7.

**List the CustomerId of the most valued customer**

SELECT customer.customerid FROM CUSTOMER,ORDERS WHERE CUSTOMER.customerid=ORDERS.customerid GROUP BY customer.customerid HAVING SUM(totalamount)>=ALL(SELECT SUM(totalamount) FROM ORDERS GROUP BY orders.customerid);



8.

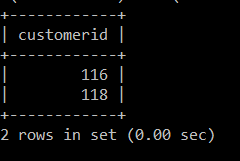
**List the CustomerId of the least valued customer.**

SELECT customer.customerid FROM CUSTOMER,ORDERS WHERE

CUSTOMER.customerid=ORDERS.CUSTOMERID GROUP BY customer.customerid HAVING

SUM(totalamount)<=ALL(SELECT SUM(totalamount) FROM ORDERS GROUP BY

orders.customerid);



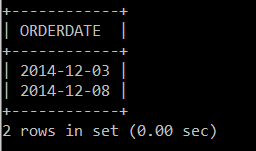
9.

List the date on which the company had the best sale.

SELECT ORDERDATE FROM ORDERS GROUP BY ORDERDATE HAVING

SUM(TOTALAMOUNT)>=ALL(SELECT SUM(TOTALAMOUNT) FROM ORDERS GROUP BY

ORDERDATE);



**TASK # 02:**

**QUERY FOR CREATING TABLE:**

mysql> create table data(

-> emp\_id int(10) primary key,

-> f\_name varchar(20) not null,

-> l\_name varchar(20) not null,

-> email varchar(30) not null,

-> hire\_date date not null,

-> job\_id varchar(20) not null,

-> salary int(40) not null,

-> manager\_id int(10) not null,

-> dept\_id int(10) not null);

Query OK, 0 rows affected (0.19 sec)

**QUERIES FOR INSERTING DATA:**

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (100,'steven','king','sking',str\_to\_date('17,jun,87','%d,%b,%y'),'AD\_PRES',24000,0,90);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (101,'Neena','kochhar','Nkochhar',str\_to\_date('18,jun,87','%d,%b,%y'),'AD\_VP',17000,100,90);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (102,'Lex','De Haan','LDEHAAN',str\_to\_date('19,jun,87','%d,%b,%y'),'AD\_VP',17000,100,90);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (103,'Alexander','Hunold','AHUNOLD',str\_to\_date('20,jun,87','%d,%b,%y'),'IT\_PROG',9000,102,60);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (104,'Bruce','Ernst','BERNST',str\_to\_date('21,jun,87','%d,%b,%y'), 'IT\_PROG',6000,103,60);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (105,'David','Austin','DAUSTIN',str\_to\_date('22,jun,87','%d,%b,%y'), 'IT\_PROG',4800,103,60);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (106,'Valli','Pataballa','VPATABAL',str\_to\_date('23,jun,87','%d,%b,%y'), 'IT\_PROG',4800,103,60);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (107,'Diana','Lorentz','DLORENTZ',str\_to\_date('24,jun,87','%d,%b,%y'), 'IT\_PROG',4200,103,60);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (108,'Nancy','Greenberg','NGREENBE',str\_to\_date('25,jun,87','%d,%b,%y'),'FI\_MGR',12000,101,100);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (109,'Daniel','Faviet','DFAVIET',str\_to\_date('26,jun,87','%d,%b,%y'),'FI\_ACCOUNT ',9000,108,100);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (110,'John','Chen','JCHEN',str\_to\_date('27,jun,87','%d,%b,%y'),'FI\_ACCOUNT ',8200,108,100);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (111,'Ismael','Sciarra','ISCIARRA',str\_to\_date('28,jun,87','%d,%b,%y'),'FI\_ACCOUNT ',7700,108,100);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (112,'Jose Manue','Urman','JMURMAN',str\_to\_date('29,jun,87','%d,%b,%y'),'FI\_ACCOUNT ',7800,108,100);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (113,'Luis','Popp','LPOPP',str\_to\_date('30,jun,87','%d,%b,%y'),'FI\_ACCOUNT ',6900,108,100);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (114,'Den','Raphaely','DRAPHEAL',str\_to\_date('01,jul,87','%d,%b,%y'),'PU\_MAN',11000,100,30);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (115,'Alexander','Khoo','AKHOO',str\_to\_date('02,jul,87','%d,%b,%y'),'PU\_CLERK',3100,114,30);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (116,'Shelli','Baida','SBAIDA',str\_to\_date('03,jul,87','%d,%b,%y'),'PU\_CLERK ',2900,114,30);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (117,'Sigal','Tobias','STOBIAS',str\_to\_date('04,jul,87','%d,%b,%y'),'PU\_CLERK ',2800,114,30);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (118,'Guy','Himuro','GHIMURO',str\_to\_date('05,jul,87','%d,%b,%y'),'PU\_CLERK ',2600,114,30);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (119,'Karen','Colmenras','KCOLMENA',str\_to\_date('06,jul,87','%d,%b,%y'),'PU\_CLERK ',2500,114,30);

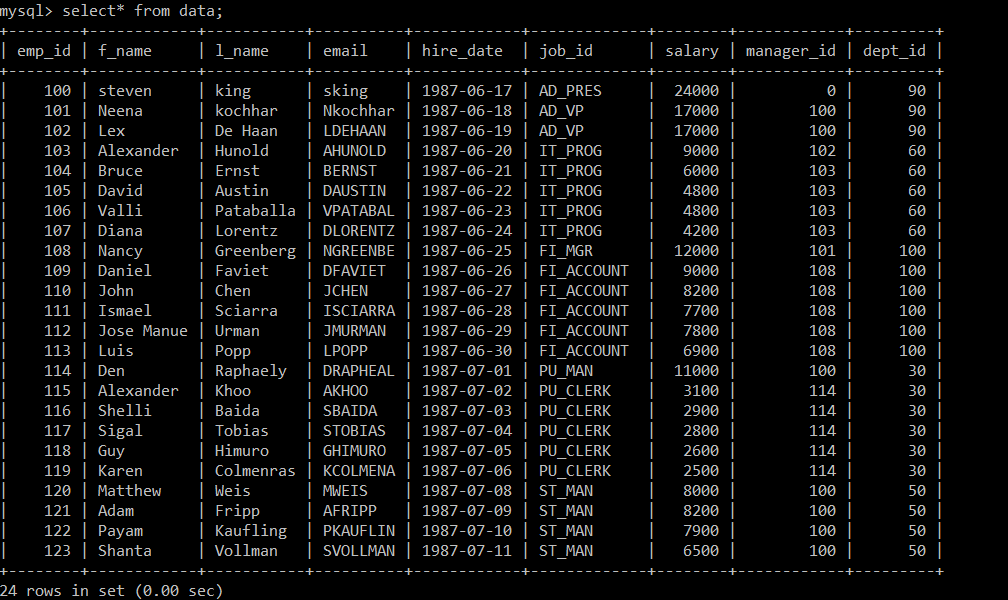
insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (120,'Matthew','Weis','MWEIS',str\_to\_date('08,jul,87','%d,%b,%y'),'ST\_MAN ',8000,100,50);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (121,'Adam','Fripp','AFRIPP',str\_to\_date('09,jul,87','%d,%b,%y'),'ST\_MAN ',8200,100,50);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (122,'Payam','Kaufling','PKAUFLIN',str\_to\_date('10,jul,87','%d,%b,%y'),'ST\_MAN ',7900,100,50);

insert into data(emp\_id,f\_name,l\_name,email,hire\_date,job\_id,salary,manager\_id,dept\_id) values (123,'Shanta','Vollman','SVOLLMAN',str\_to\_date('11,jul,87','%d,%b,%y'),'ST\_MAN ',6500,100,50);

**TABLE AFTER INSERTING DATA:**

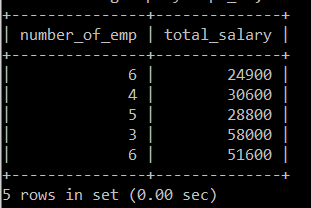


1. **List the number of employees, total salary paid to employees that work in each department.**

mysql> select count(\*) as number\_of\_emp , sum(salary) as total\_salary

from data

group by dept\_id;

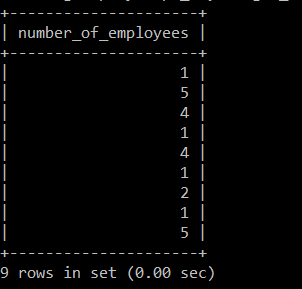


1. **List the number of employees working in each department under each manager.**

mysql> select count(\*) as number\_of\_employees

-> from data

-> group by dept\_id,manager\_id;

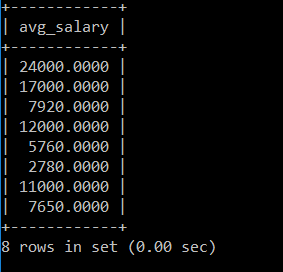


1. **List the average salaries paid to each designation (job\_id).**

mysql> select avg(salary) as avg\_salary

-> from data

-> group by job\_id;



1. **List the manager under whom the most number of employees are working.**

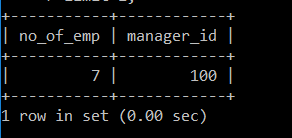
mysql> select count(emp\_id) as no\_of\_emp,manager\_id

-> from data

-> group by manager\_id

-> order by no\_of\_emp desc

-> limit 1;

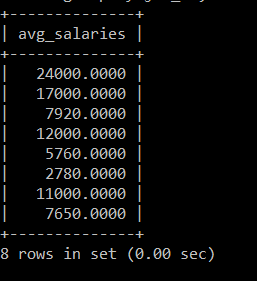


**5. List the average salaries paid to each designation in each department.**

mysql> select avg(salary) as avg\_salaries

-> from data

-> group by job\_id;



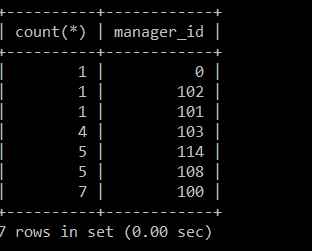
**6. List the number of employees working under each manager in ascending order.**

mysql> select count(\*), manager\_id

-> from data

-> group by manager\_id

-> order by count(\*) asc;

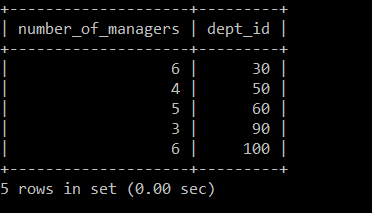


**7. List the number of managers in each department**.

mysql> select count(\*) as number\_of\_managers, dept\_id

-> from data

-> group by dept\_id;



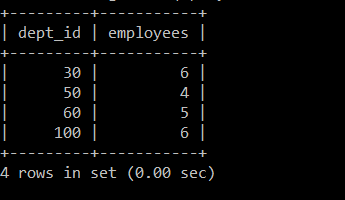
**8. List the departments that has more than 3 employees.**

mysql> select dept\_id, count(\*) as employees

-> from data

-> group by dept\_id

-> having count(\*)>3;



**9. List the department that has the most number of employees.**

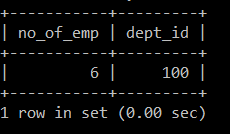
mysql> select count(emp\_id) as no\_of\_emp, dept\_id

-> from data

-> group by dept\_id

-> order by no\_of\_emp desc

-> limit 1;



**10. List the department that the least number of employees.**

mysql> select count(emp\_id) as no\_of\_emp, dept\_id

-> from data

-> group by dept\_id

-> order by no\_of\_emp asc

-> limit 1;

