

# **ADBMS LAB RECORD**

## SET 1

1. Create an employee table 'EMP' with following fields : empno NUMBER(4) ename VARCHAR2(25) job VARCHAR2(12) salary NUMBER(10,2) commission NUMBER(7,2) deptno NUMBER(2)

```
mysql> create table emp(empno int primary key,ename varchar (20), job
varchar(50),salary int,commision int,deptno int);
Query OK, 0 rows affected (0.30 sec)
```

2. Display the structure of 'EMP'

```
mysql> desc emp;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| empno      | int(11)       | NO   | PRI | NULL    |       |
| ename      | varchar(20)   | YES  |     | NULL    |       |
| job        | varchar(50)   | YES  |     | NULL    |       |
| salary     | int(11)       | YES  |     | NULL    |       |
| commision  | int(11)       | YES  |     | NULL    |       |
| deptno     | int(11)       | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

3. Insert the following record into 'EMP'

```
mysql> insert into emp values(7369,"smith","clerk",2000,800,20);
Query OK, 1 row affected (0.04 sec)
```

```
mysql> select * from emp;
+-----+-----+-----+-----+-----+-----+
| empno | ename | job   | salary | commision | deptno |
+-----+-----+-----+-----+-----+-----+
| 7369  | smith | clerk | 2000   | 800       | 20     |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

4. Insert the rest of the records using the substitution variable.

```
mysql> insert into emp values(7499,"allen","salesman",1600,300,30);
Query OK, 1 row affected (0.03 sec)

mysql> insert into emp values(7521,"ward","salesman",1250,500,30);
Query OK, 1 row affected (0.03 sec)

mysql> insert into emp values(7566,"jones","manager",2975,500,20);
Query OK, 1 row affected (0.02 sec)

mysql> insert into emp values(7654,"martin","salesman",1250,1400,30);
Query OK, 1 row affected (0.03 sec)

mysql> insert into emp values(7698,"blake","manager",2850,NULL,30);
Query OK, 1 row affected (0.03 sec)

mysql> insert into emp values(7782,"clark","manager",2450,NULL,10);
Query OK, 1 row affected (0.03 sec)

mysql> insert into emp values(7788,"scott","analyst",3000,NULL,20);
Query OK, 1 row affected (0.03 sec)

mysql> insert into emp values(7839,"king","president",5000,NULL,10);
Query OK, 1 row affected (0.05 sec)

mysql> insert into emp values(7844,"turner","salesman",1500,NULL,30);
Query OK, 1 row affected (0.02 sec)

mysql> insert into emp values(7876,"adams","clerk",1100,NULL,20);
Query OK, 1 row affected (0.03 sec)

mysql> insert into emp values(7900,"james","NULL",950,NULL,30);
Query OK, 1 row affected (0.02 sec)

mysql> insert into emp values(7902,"ford","analyst",3000,NULL,20);
Query OK, 1 row affected (0.02 sec)

mysql> insert into emp values(7934,"miller","clerk",1300,NULL,10);
Query OK, 1 row affected (0.04 sec)
```

```
mysql> select * from emp;
```

empno	ename	job	salary	commision	deptno
7369	smith	clerk	2000	800	20
7499	allen	salesman	1600	300	30
7521	ward	salesman	1250	500	30
7566	jones	manager	2975	NULL	20
7654	martin	salesman	1250	1400	30
7698	blake	manager	2850	NULL	30
7782	clark	manager	2450	NULL	10
7788	scott	analyst	3000	NULL	20
7839	king	president	5000	NULL	10
7844	turner	salesman	1500	NULL	30
7876	adams	clerk	1100	NULL	20
7900	james	NULL	950	NULL	30
7902	ford	analyst	3000	NULL	20
7934	milller	clerk	1300	NULL	10

```
14 rows in set (0.00 sec)
```

5. Insert job as 'CLERK' for all 'NULL' job types.

```
mysql> update emp set job="clerk" where ename="james";
Query OK, 0 rows affected (0.03 sec)
Rows matched: 1 Changed: 0 Warnings: 0
```

```
mysql> select * from emp;
```

empno	ename	job	salary	commision	deptno
7369	smith	clerk	2000	800	20
7499	allen	salesman	1600	300	30
7521	ward	salesman	1250	500	30
7566	jones	manager	2975	NULL	20
7654	martin	salesman	1250	1400	30
7698	blake	manager	2850	NULL	30
7782	clark	manager	2450	NULL	10
7788	scott	analyst	3000	NULL	20
7839	king	president	5000	NULL	10
7844	turner	salesman	1500	NULL	30
7876	adams	clerk	1100	NULL	20
7900	james	clerk	950	NULL	30
7902	ford	analyst	3000	NULL	20
7934	milller	clerk	1300	NULL	10

```
14 rows in set (0.00 sec)
```

6. Add a new field 'date\_join' with following values date\_join 17-DEC-80 20-FEB-81 22-FEB-81 02-APR-81 28-SEP-81 01-MAY-81 09-JUN-81 19-APR-87 17-NOV-81 08-SEP-81

```
mysql> update emp set date_joining='1981-02-22' where empno=7521;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> update emp set date_joining='1981-04-02' where empno=7566;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> update emp set date_joining='1981-09-28' where empno=7654;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> update emp set date_joining='1981-05-01' where empno=7698;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> update emp set date_joining='1981-06-09' where empno=7782;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> update emp set date_joining='1987-04-19' where empno=7788;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> update emp set date_joining='1981-11-17' where empno=7839;
Query OK, 1 row affected (0.02 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

7. Display details of all employees

```
mysql> select * from emp;
```

empno	ename	job	salary	commision	deptno	date_joining
7369	smith	clerk	2000	800	20	1980-12-17
7499	allen	salesman	1600	300	30	1981-02-20
7521	ward	salesman	1250	500	30	1981-02-22
7566	jones	manager	2975	NULL	20	1981-04-02
7654	martin	salesman	1250	1400	30	1981-09-28
7698	blake	manager	2850	NULL	30	1981-05-01
7782	clark	manager	2450	NULL	10	1981-06-09
7788	scott	analyst	3000	NULL	20	1987-04-19
7839	king	president	5000	NULL	10	1981-11-17
7844	turner	salesman	1500	NULL	30	1981-09-08
7876	adams	clerk	1100	NULL	20	1987-05-23
7900	james	clerk	950	NULL	30	1981-12-03
7902	ford	analyst	3000	NULL	20	1981-12-03
7934	milller	clerk	1300	NULL	10	1982-01-23

```
14 rows in set (0.00 sec)
```

8. Display all the distinct job types in 'EMP'

```
mysql> select distinct job from emp;
+-----+
| job   |
+-----+
| clerk |
| salesman |
| manager |
| analyst |
| president |
+-----+
5 rows in set (0.00 sec)
```

9. Display names of all employees in dept 20 and 30

```
mysql> select ename from emp where deptno in(20,30);
+-----+
| ename |
+-----+
| smith |
| allen |
| ward  |
| jones |
| martin |
| blake |
| scott |
| turner |
| adams |
| james |
| ford  |
+-----+
11 rows in set (0.00 sec)
```

10. List name and Total of salary i.e sal+commission

```
mysql> select ename,sum(salary+commision) from emp group by ename;
```

ename	sum(salary+commision)
adams	NULL
allen	1900
blake	NULL
clark	NULL
ford	NULL
james	NULL
jones	NULL
king	NULL
martin	2650
miller	NULL
scott	NULL
smith	2800
turner	NULL
ward	1750

14 rows in set (0.00 sec)

11. List name and Annual Salary i.e sal\*12

```
mysql> select ename,sum(salary*12)from emp group by ename;
```

ename	sum(salary*12)
adams	13200
allen	19200
blake	34200
clark	29400
ford	36000
james	11400
jones	35700
king	60000
martin	15000
miller	15600
scott	36000
smith	24000
turner	18000
ward	15000

14 rows in set (0.00 sec)

12. List the employees who joined on the date '03-DEC-81'

```
mysql> select ename from emp where date_joining="1981-12-03";
+-----+
| ename |
+-----+
| james |
| ford  |
+-----+
2 rows in set (0.00 sec)
```

13. Display the total salary of 'Miller'

```
mysql> select salary from emp where ename="miller";
+-----+
| salary |
+-----+
| 1300   |
+-----+
1 row in set (0.00 sec)
```

14. Delete the employee 'Miller' from 'EMP'

```
mysql> delete from emp where ename="miller";
Query OK, 1 row affected (0.03 sec)
```

```
mysql> select * from emp;
```

empno	ename	job	salary	commision	deptno	date_joining
7369	smith	clerk	2000	800	20	1980-12-17
7499	allen	salesman	1600	300	30	1981-02-20
7521	ward	salesman	1250	500	30	1981-02-22
7566	jones	manager	2975	NULL	20	1981-04-02
7654	martin	salesman	1250	1400	30	1981-09-28
7698	blake	manager	2850	NULL	30	1981-05-01
7782	clark	manager	2450	NULL	10	1981-06-09
7788	scott	analyst	3000	NULL	20	1987-04-19
7839	king	president	5000	NULL	10	1981-11-17
7844	turner	salesman	1500	NULL	30	1981-09-08
7876	adams	clerk	1100	NULL	20	1987-05-23
7900	james	clerk	950	NULL	30	1981-12-03
7902	ford	analyst	3000	NULL	20	1981-12-03

13 rows in set (0.00 sec)



15. Display name and deptno of all employees.

```
mysql> select ename,deptno from emp;
```

```
+-----+-----+
| ename | deptno |
+-----+-----+
| smith | 20     |
| allen | 30     |
| ward  | 30     |
| jones | 20     |
| martin| 30     |
| blake | 30     |
| clark | 10     |
| scott | 20     |
| king  | 10     |
| turner| 30     |
| adams | 20     |
| james | 30     |
| ford  | 20     |
+-----+-----+
13 rows in set (0.00 sec)
```

16. Remove the field 'commission' from 'EMP' after updating salary with total salary, i.e sal+commission

```
mysql> update emp SET salary= CASE WHEN commision is NOT NULL THEN salary+commision ELSE salary END;
Query OK, 4 rows affected (0.03 sec)
Rows matched: 13  Changed: 4  Warnings: 0
```

```
mysql> select * from emp;
```

```
+-----+-----+-----+-----+-----+-----+
| empno | ename | job      | salary | commision | deptno | date_joining |
+-----+-----+-----+-----+-----+-----+
| 7369 | smith | clerk    | 2800   | 800       | 20     | 1980-12-17   |
| 7499 | allen | salesman | 1900   | 300       | 30     | 1981-02-20   |
| 7521 | ward  | salesman | 1750   | 500       | 30     | 1981-02-22   |
| 7566 | jones | manager  | 2975   | NULL      | 20     | 1981-04-02   |
| 7654 | martin| salesman | 2650   | 1400      | 30     | 1981-09-28   |
| 7698 | blake | manager  | 2850   | NULL      | 30     | 1981-05-01   |
| 7782 | clark | manager  | 2450   | NULL      | 10     | 1981-06-09   |
| 7788 | scott | analyst  | 3000   | NULL      | 20     | 1987-04-19   |
| 7839 | king  | president| 5000   | NULL      | 10     | 1981-11-17   |
| 7844 | turner| salesman | 1500   | NULL      | 30     | 1981-09-08   |
| 7876 | adams | clerk    | 1100   | NULL      | 20     | 1987-05-23   |
| 7900 | james | clerk    | 950    | NULL      | 30     | 1981-12-03   |
| 7902 | ford  | analyst  | 3000   | NULL      | 20     | 1981-12-03   |
+-----+-----+-----+-----+-----+-----+
13 rows in set (0.01 sec)
```

```
mysql> alter table emp drop column commision;
Query OK, 0 rows affected (0.47 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> select * from emp;
```

empno	ename	job	salary	deptno	date_joining
7369	smith	clerk	2800	20	1980-12-17
7499	allen	salesman	1900	30	1981-02-20
7521	ward	salesman	1750	30	1981-02-22
7566	jones	manager	2975	20	1981-04-02
7654	martin	salesman	2650	30	1981-09-28
7698	blake	manager	2850	30	1981-05-01
7782	clark	manager	2450	10	1981-06-09
7788	scott	analyst	3000	20	1987-04-19
7839	king	president	5000	10	1981-11-17
7844	turner	salesman	1500	30	1981-09-08
7876	adams	clerk	1100	20	1987-05-23
7900	james	clerk	950	30	1981-12-03
7902	ford	analyst	3000	20	1981-12-03

```
13 rows in set (0.01 sec)
```

17. Display the name of employees having the same amount of salary ( don't use subqueries)

```
mysql> select e1.ename,e1.salary from emp e1
-> join emp e2 on
-> e1.salary=e2.salary
-> and e1.empno <> e2.empno;
```

ename	salary
ford	3000
scott	3000

```
2 rows in set (0.01 sec)
```

18. Display the name and employee no as 'name' and 'emp\_id'

```
mysql> select ename as name, empno as empid from emp;
+-----+-----+
| name   | empid |
+-----+-----+
| smith  | 7369  |
| allen  | 7499  |
| ward   | 7521  |
| jones  | 7566  |
| martin | 7654  |
| blake  | 7698  |
| clark  | 7782  |
| scott  | 7788  |
| king   | 7839  |
| turner | 7844  |
| adams  | 7876  |
| james  | 7900  |
| ford   | 7902  |
+-----+-----+
13 rows in set (0.00 sec)
```

19. Rename table 'EMP' to 'EMPLOYEE'

```
mysql> alter table emp rename to employee;
Query OK, 0 rows affected (0.08 sec)
```

```
mysql> select * from emp;
ERROR 1146 (42S02): Table 'employee.emp' doesn't exist
mysql> select * from employee;
```

```
+-----+-----+-----+-----+-----+-----+
| empno | ename | job       | salary | deptno | date_joining |
+-----+-----+-----+-----+-----+-----+
| 7369  | smith | clerk     | 2800   | 20     | 1980-12-17   |
| 7499  | allen | salesman  | 1900   | 30     | 1981-02-20   |
| 7521  | ward  | salesman  | 1750   | 30     | 1981-02-22   |
| 7566  | jones | manager   | 2975   | 20     | 1981-04-02   |
| 7654  | martin | salesman  | 2650   | 30     | 1981-09-28   |
| 7698  | blake | manager   | 2850   | 30     | 1981-05-01   |
| 7782  | clark | manager   | 2450   | 10     | 1981-06-09   |
| 7788  | scott | analyst   | 3000   | 20     | 1987-04-19   |
| 7839  | king  | president | 5000   | 10     | 1981-11-17   |
| 7844  | turner | salesman  | 1500   | 30     | 1981-09-08   |
| 7876  | adams | clerk     | 1100   | 20     | 1987-05-23   |
| 7900  | james | clerk     | 950    | 30     | 1981-12-03   |
| 7902  | ford  | analyst   | 3000   | 20     | 1981-12-03   |
+-----+-----+-----+-----+-----+-----+
13 rows in set (0.00 sec)
```

20. Create a new table 'EMP\_TAB' from table 'EMPLOYEE'

```
mysql> create table emp_tab as(select * from employee);
Query OK, 13 rows affected (0.24 sec)
Records: 13 Duplicates: 0 Warnings: 0
```

```
mysql> select * from emp_tab;
```

empno	ename	job	salary	deptno	date_joining
7369	smith	clerk	2800	20	1980-12-17
7499	allen	salesman	1900	30	1981-02-20
7521	ward	salesman	1750	30	1981-02-22
7566	jones	manager	2975	20	1981-04-02
7654	martin	salesman	2650	30	1981-09-28
7698	blake	manager	2850	30	1981-05-01
7782	clark	manager	2450	10	1981-06-09
7788	scott	analyst	3000	20	1987-04-19
7839	king	president	5000	10	1981-11-17
7844	turner	salesman	1500	30	1981-09-08
7876	adams	clerk	1100	20	1987-05-23
7900	james	clerk	950	30	1981-12-03
7902	ford	analyst	3000	20	1981-12-03

13 rows in set (0.00 sec)

21. List the details of 'EMPLOYEE' and 'EMPTAB'

```
mysql> select * from emp_tab;
```

empno	ename	job	salary	deptno	date_joining
7369	smith	clerk	2800	20	1980-12-17
7499	allen	salesman	1900	30	1981-02-20
7521	ward	salesman	1750	30	1981-02-22
7566	jones	manager	2975	20	1981-04-02
7654	martin	salesman	2650	30	1981-09-28
7698	blake	manager	2850	30	1981-05-01
7782	clark	manager	2450	10	1981-06-09
7788	scott	analyst	3000	20	1987-04-19
7839	king	president	5000	10	1981-11-17
7844	turner	salesman	1500	30	1981-09-08
7876	adams	clerk	1100	20	1987-05-23
7900	james	clerk	950	30	1981-12-03
7902	ford	analyst	3000	20	1981-12-03

13 rows in set (0.00 sec)

```
mysql> select * from employee;
```

empno	ename	job	salary	deptno	date_joining
7369	smith	clerk	2800	20	1980-12-17
7499	allen	salesman	1900	30	1981-02-20
7521	ward	salesman	1750	30	1981-02-22
7566	jones	manager	2975	20	1981-04-02
7654	martin	salesman	2650	30	1981-09-28
7698	blake	manager	2850	30	1981-05-01
7782	clark	manager	2450	10	1981-06-09
7788	scott	analyst	3000	20	1987-04-19
7839	king	president	5000	10	1981-11-17
7844	turner	salesman	1500	30	1981-09-08
7876	adams	clerk	1100	20	1987-05-23
7900	james	clerk	950	30	1981-12-03
7902	ford	analyst	3000	20	1981-12-03

13 rows in set (0.00 sec)

22. Delete all records from EMP

```
mysql> delete from emp_tab;  
Query OK, 13 rows affected (0.04 sec)
```

```
mysql> select * from emp_tab;  
Empty set (0.00 sec)
```

23. Delete the table 'EMP'

```
mysql> drop table emp_tab;  
Query OK, 0 rows affected (0.13 sec)
```

```
mysql> select * from emp_tab;  
ERROR 1146 (42S02): Table 'employee.emp_tab' doesn't exist  
mysql> select * from employee;
```

## SET 2

Create the following tables and execute the queries given below SAILORS

1. Find the names and ages of all sailors

```
mysql> select sname,age from sailors;
```

sname	age
dustin	45
brutas	33
lubber	55
andy	25
rusty	35
horatio	35
zorba	16
horatio	35
art	26
bob	64

10 rows in set (0.00 sec)

2. Find all information of sailors who have reserved boat number 101

```
mysql> select * from sailors s,reserves r where s.sid=r.sid and r.bid=101;
```

sid	sname	rating	age	sid	bid	day
22	dustin	7	45	22	101	1998-10-10
64	horatio	7	35	64	101	1998-05-09

2 rows in set (0.00 sec)

3. Find all sailors with rating above 7.

```
mysql> select * from sailors where rating>7;
+-----+-----+-----+-----+
| sid | sname | rating | age |
+-----+-----+-----+-----+
| 31 | lubber | 8 | 55 |
| 32 | andy | 8 | 25 |
| 58 | rusty | 10 | 35 |
| 71 | zorba | 10 | 16 |
| 74 | horatio | 9 | 35 |
+-----+-----+-----+-----+
5 rows in set (0.01 sec)
```

4. Find the names of sailors who have reserved boat no 103

```
mysql> select s.sname from sailors s,reserves r where s.sid=r.sid and r.bid=103;
+-----+
| sname |
+-----+
| dustin |
| lubber |
| horatio |
+-----+
3 rows in set (0.00 sec)
```

5. Find the names of sailors who have reserved a red boat, and list in the order of age

```
mysql> select distinct s.sname,s.age from sailors s, boats b,reserves r where
s.sid=r.sid and r.bid=b.bid and b.color="red" order by s.age;
+-----+-----+
| sname | age |
+-----+-----+
| horatio | 35 |
| dustin | 45 |
| lubber | 55 |
+-----+-----+
3 rows in set (0.00 sec)
```

6. Find the names of sailors who have reserved either a red or green boat.

```
mysql> select distinct s.sname from sailors s,reserves r,boats b where s.sid=
r.sid and r.bid=b.bid and (b.color="red" or b.color="green");
+-----+
| sname |
+-----+
| dustin |
| lubber |
| horatio |
+-----+
3 rows in set (0.00 sec)
```

7. Find the colors of boats reserved by "Lubber"

```
mysql> select distinct b.color from sailors s,boats b,reserves r where s.sid=
r.sid and r.bid=b.bid and s.sname="lubber";
+-----+
| color |
+-----+
| red |
| green |
+-----+
2 rows in set (0.00 sec)
```

8. Find the names of sailors who have reserved at least one boat

```
mysql> select distinct s.sname from sailors s,reserves r where s.sid=r.sid;
+-----+
| sname |
+-----+
| dustin |
| lubber |
| horatio |
+-----+
3 rows in set (0.00 sec)
```

9. Find the ids and names of sailors who have reserved two different boats on the same day.

```
mysql> select distinct s.sname,s.sid from sailors s,reserves r1,reserves r2
where s.sid=r1.sid and s.sid=r2.sid and r1.day=r2.day and r1.bid<r2.bid;
+-----+-----+
| sname | sid |
+-----+-----+
| dustin | 22 |
+-----+-----+
1 row in set (0.00 sec)
```



10. Find the name and the age of the youngest sailor.

```
mysql> select sname,age from sailors where age=(select min(age)from sailors);
+-----+-----+
| sname | age |
+-----+-----+
| zorba | 16 |
+-----+-----+
1 row in set (0.00 sec)
```

11. Find the names and ratings of a sailor whose rating is better than some sailor called Horatio.

```
mysql> select sname,rating from sailors where rating >any(select rating from
sailors where sname="horatio");
+-----+-----+
| sname | rating |
+-----+-----+
| lubber | 8 |
| andy | 8 |
| rusty | 10 |
| zorba | 10 |
| horatio | 9 |
+-----+-----+
5 rows in set (0.00 sec)
```

12. Find the names of sailors who have reserved all boats.

```
mysql> select distinct s.sname from sailors s where not exists(select *
from boats b where not exists(select * from reserves r where r.sid=s.sid
and r.bid=b.bid));
+-----+
| sname |
+-----+
| dustin |
+-----+
1 row in set (0.00 sec)
```

13. Count the number of different sailor names.

```
mysql> select count(distinct sname)from sailors;
+-----+
| count(distinct sname) |
+-----+
|                      9 |
+-----+
1 row in set (0.00 sec)
```

14. Calculate the average age of all sailors.

```
mysql> select avg(age) from sailors;
+-----+
| avg(age) |
+-----+
|  36.9000 |
+-----+
1 row in set (0.00 sec)
```

15. Find the average age of sailors for each rating level

```
mysql> select rating ,avg(age) as avg_age from sailors group by rating;
+-----+-----+
| rating | avg_age |
+-----+-----+
|      1 | 33.0000 |
|      3 | 45.0000 |
|      7 | 40.0000 |
|      8 | 40.0000 |
|      9 | 35.0000 |
|     10 | 25.5000 |
+-----+-----+
6 rows in set (0.00 sec)
```

16. Find the average age of sailors for each rating level that has at least two sailors.

```
mysql> select rating,avg(age) as avg_age from sailors group by rating
having count(*)>1;
+-----+-----+
| rating | avg_age |
+-----+-----+
|      3 | 45.0000 |
|      7 | 40.0000 |
|      8 | 40.0000 |
|     10 | 25.5000 |
+-----+-----+
4 rows in set (0.00 sec)
```

## SET 3

Consider the following schema for OrderDatabase: SALESMAN (Salesman\_id, Name, City, Commission) CUSTOMER (Customer\_id, Cust\_Name, City, Grade,Salesman\_id) ORDERS (Ord\_No, Purchase\_Amt, Ord\_Date, Customer\_id,Salesman\_id) Write SQL queries to

CUTOMER

```
mysql> select * from customer;
```

customer_id	cust_name	city	Grade	salesman_id
10	preethi	bangalore	100	1000
11	vivek	mangalore	300	1000
12	bhaskar	chennai	400	2000
13	chethan	bangalore	200	2000
14	mamatha	bangalore	400	3000

5 rows in set (0.00 sec)

ORDERS

```
mysql> select * from orders;
```

ord_no	purchase_amt	ord_date	customer_id	salesman_id
50	5000	2017-05-04	10	1000
51	450	2017-01-20	10	2000
52	1000	2017-02-24	13	2000
53	3500	2017-04-13	14	3000
54	550	2017-03-09	12	2000

5 rows in set (0.00 sec)

SALESMAN

```
mysql> select * from salesman;
```

salesman_id	name	city	commission
1000	john	Bangalore	25
2000	ravi	bangalore	20
3000	kumar	mysore	15
4000	smith	delhi	30
5000	harsha	hydrabad	15

5 rows in set (0.00 sec)

1. Count the customers with grades above Bangalore's Average.

```
mysql> select grade,count(distinct customer_id)
-> from customer
-> group by grade
-> having grade>(select avg(grade)
-> from customer
-> where city='bangalore');
+-----+-----+
| grade | count(distinct customer_id) |
+-----+-----+
| 300   | 1 |
| 400   | 2 |
+-----+-----+
2 rows in set (0.00 sec)
```

2. Find the name and numbers of all salesmen who had more than one customer

```
mysql> select salesman_id,name
-> from salesman A
-> where 1<(select count(*)
-> from customer
-> where salesman_id=A.salesman_id);
+-----+-----+
| salesman_id | name |
+-----+-----+
| 1000        | john |
| 2000        | ravi |
+-----+-----+
2 rows in set (0.00 sec)
```

3. List all salesmen and indicate those who have and don't have customers in their cities  
(Use UNION operation.)

```
mysql> select salesman.salesman_id,name,cust_name,commission
-> from salesman,customer
-> where salesman.city=customer.city
-> union
-> select salesman_id,name,'NO MATCH',commission
-> from salesman
-> where not city=any
-> (select city from customer)
-> order by 2 desc;
```

salesman_id	name	cust_name	commission
4000	smith	NO MATCH	30
2000	ravi	preethi	20
2000	ravi	chethan	20
2000	ravi	mamatha	20
3000	kumar	NO MATCH	15
1000	john	chethan	25
1000	john	mamatha	25
1000	john	preethi	25
5000	harsha	NO MATCH	15

9 rows in set (0.00 sec)

4. Create a view that finds the salesman who has the customer with the highest order of the day

```
mysql> create view elitsalesman as
-> select b.ord_date,a.salesman_id,a.name
-> from salesman a,orders b
-> where a.salesman_id=b.salesman_id
-> and b.purchase_amt=(select max(purchase_amt))
-> and b.purchase_amt=(select max(purchase_amt)
-> from orders c
-> where c.ord_date=b.ord_date);
```

Query OK, 0 rows affected (0.03 sec)

```
mysql> select * from elitsalesman;
```

ord_date	salesman_id	name
2017-05-04	1000	john
2017-01-20	2000	ravi
2017-02-24	2000	ravi
2017-04-13	3000	kumar
2017-03-09	2000	ravi

5 rows in set (0.02 sec)

5. Demonstrate the DELETE operation by removing salesmen with id 1000. All his orders must also be deleted.

```
mysql> delete from orders where salesman_id=1000;  
Query OK, 0 rows affected (0.00 sec)
```

```
mysql> select * from orders;
```

ord_no	purchase_amt	ord_date	customer_id	salesman_id
51	450	2017-01-20	10	2000
52	1000	2017-02-24	13	2000
53	3500	2017-04-13	14	3000
54	550	2017-03-09	12	2000

4 rows in set (0.00 sec)

## SET 4

### DCL

1. Creating a Guest User and set permissions INSERT, DELETE, SELECT, UPDATE

```
cep@cep-Vostro-3470:~$ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 12
Server version: 5.7.42-0ubuntu0.18.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use set4;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> create user guest identified by 'guest';
Query OK, 0 rows affected (0.00 sec)

mysql> grant insert,select,update,delete on student to guest;
Query OK, 0 rows affected (0.00 sec)

mysql> quit;
Bye
```

2. Perform INSERT, SELECT, UPDATE, DELETE operation in Guest mode



```

cep@cep-Vostro-3470:~$ mysql -u guest -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 5.7.42-0ubuntu0.18.04.1 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use set4;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> select * from student;
+-----+-----+-----+-----+
| rollno | fname | lname | email |
+-----+-----+-----+-----+
| 100 | Amal | Thomas | amal@gmail.com |
| 101 | Athul | mohan | athul@gmail.com |
| 103 | godwin | paulose | godwin@gmail.com |
| 104 | mathew | Joseph | mathew@gmail.com |
| 105 | tebin | joy | tebin@gmail.com |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> insert into student values(106,'Thomas','shelby','thomasshelby@gmail.com');
Query OK, 1 row affected (0.04 sec)

mysql> select * from student;
+-----+-----+-----+-----+
| rollno | fname | lname | email |
+-----+-----+-----+-----+
| 100 | Amal | Thomas | amal@gmail.com |
| 101 | Athul | mohan | athul@gmail.com |
| 103 | godwin | paulose | godwin@gmail.com |
| 104 | mathew | Joseph | mathew@gmail.com |
| 105 | tebin | joy | tebin@gmail.com |
| 106 | Thomas | shelby | thomasshelby@gmail.com |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

```

### 3. Revoke the Permissions

```

cep@cep-Vostro-3470:~$ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 14
Server version: 5.7.42-0ubuntu0.18.04.1 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use set4;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> revoke insert,select,update,delete on student from guest;
Query OK, 0 rows affected (0.00 sec)

mysql> quit;
Bye

```

```

cep@cep-Vostro-3470:~$ mysql -u guest -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 15
Server version: 5.7.42-0ubuntu0.18.04.1 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use set4;
ERROR 1044 (42000): Access denied for user 'guest'@'%' to database 'set4'
mysql> quit;
Bye

```

## TCL

```
mysql> select * from employee;
```

```
+-----+-----+-----+-----+
| empid | empname | salary | year_of_experience |
+-----+-----+-----+-----+
| 102   | cyril   | 15000  | 1                  |
| 103   | dominic | 25000  | 3                  |
| 104   | emil    | 115000 | 15                 |
| 106   | mathew  | 20000  | 2                  |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> start transaction;
```

```
Query OK, 0 rows affected (0.00 sec)
```

```
mysql> update employee set salary=25000 where empid=106;
```

```
Query OK, 1 row affected (0.00 sec)
```

```
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> select * from employee;
```

```
+-----+-----+-----+-----+
| empid | empname | salary | year_of_experience |
+-----+-----+-----+-----+
| 102   | cyril   | 15000  | 1                  |
| 103   | dominic | 25000  | 3                  |
| 104   | emil    | 115000 | 15                 |
| 106   | mathew  | 25000  | 2                  |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> rollback;
```

```
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> select * from employee;
```

```
+-----+-----+-----+-----+
| empid | empname | salary | year_of_experience |
+-----+-----+-----+-----+
| 102   | cyril   | 15000  | 1                  |
| 103   | dominic | 25000  | 3                  |
| 104   | emil    | 115000 | 15                 |
| 106   | mathew  | 20000  | 2                  |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

## SET 5

1. Create a table employee with following field.  
Empid, fname, lname, city, age, salary

```
mysql> insert into employee values('E01','James','Horg','New york',17,50000);
Query OK, 1 row affected (0.12 sec)

mysql> insert into employee values('E02','Nail','Knite','Paris',20,65000);
Query OK, 1 row affected (0.09 sec)

mysql> insert into employee values('E03','pit','alex','london',25,70000);
Query OK, 1 row affected (0.07 sec)

mysql> insert into employee values('E04','MC','Lyon','New York',27,73000);
Query OK, 1 row affected (0.08 sec)

mysql> insert into employee values('E05','Paul','Adam','Rome',26,71000);
Query OK, 1 row affected (0.04 sec)

mysql> insert into employee values('E06','lauson','Hen','paris',35,100000);
Query OK, 1 row affected (0.05 sec)

mysql> select * from employee;
+-----+-----+-----+-----+-----+-----+
| empid | fname | lname | city   | age | salary |
+-----+-----+-----+-----+-----+-----+
| E01   | James | Horg  | New york | 17 | 50000 |
| E02   | Nail  | Knite | Paris    | 20 | 65000 |
| E03   | pit   | alex  | london   | 25 | 70000 |
| E04   | MC    | Lyon  | New York | 27 | 73000 |
| E05   | Paul  | Adam  | Rome     | 26 | 71000 |
| E06   | lauson | Hen   | paris    | 35 | 100000 |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

2. From the above Table, create a View virtualemp for these where age falls between 17 to 26

```
mysql> create view virtualemp as
-> select * from employee
-> where age between 17 and 26;
Query OK, 0 rows affected (0.09 sec)

mysql> select * from virtualemp;
+-----+-----+-----+-----+-----+-----+
| empid | fname | lname | city    | age | salary |
+-----+-----+-----+-----+-----+-----+
| E01   | James | Horg  | New york | 17  | 50000  |
| E02   | Nail  | Knite | Paris    | 20  | 65000  |
| E03   | pit   | alex  | london   | 25  | 70000  |
| E05   | Paul  | Adam  | Rome     | 26  | 71000  |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

3. Describe the structure of the view table

```
mysql> desc virtualemp;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| empid | varchar(5)    | NO   |     | NULL    |       |
| fname | varchar(20)   | YES  |     | NULL    |       |
| lname | varchar(20)   | YES  |     | NULL    |       |
| city  | varchar(20)   | YES  |     | NULL    |       |
| age   | int(11)       | YES  |     | NULL    |       |
| salary | int(11)       | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

4. Selecting from a view, Add the 'email' column to the view table

```
mysql> alter view virtualemp as select * from employee;  
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> select * from virtualemp;
```

empid	fname	lname	city	age	salary	email
E01	James	Horg	New york	17	50000	james@gmail.com
E02	Nail	Knite	Paris	20	65000	Nail@gmail.com
E03	pit	alex	london	25	70000	Pit@gmail.com
E04	MC	Lyon	New York	27	73000	MC@gmail.com
E05	Paul	Adam	Rome	26	71000	Paul@gmail.com
E06	lauson	Hen	paris	35	100000	lauson@gmail.com

6 rows in set (0.00 sec)

## 5. Drop view Table

```
mysql> drop view virtualemp;  
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> select * from virtualemp;  
ERROR 1146 (42S02): Table 'set5.virtualemp' doesn't exist  
mysql> █
```

## SET 6

### JOINS

```
mysql> select * from employee;
```

employeeid	first_name	last_name	salary	joining_date	department	gender
1	vikas	ahlawat	600000	2013-02-15 11:16:28	IT	male
2	nikita	jain	530000	2014-01-09 17:31:08	HR	female
3	ashish	kumar	1000000	2014-01-09 10:05:08	IT	male
4	nikhil	sharma	480000	2014-01-09 09:00:08	HR	male
5	anish	kadian	500000	2014-01-09 09:31:08	Payroll	male

5 rows in set (0.00 sec)

```
mysql> select * from project;
```

projectid	employeeid	project_name
1	1	Task track
2	1	CLP
3	1	Survey management
4	2	HR management
5	3	Task track
6	3	GRS
7	3	DDS
8	4	HR Management
9	5	GL Management

9 rows in set (0.01 sec)

1. Get employee name, project name order by firstname from "EmployeeDetail" and "ProjectDetail" for those employees which have assigned projects already.

```
mysql> select first_name,project_name from employee A inner join project B on A.employeeid=B.employeeid order by first_name;
```

first_name	project_name
anish	GL Management
ashish	Task track
ashish	GRS
ashish	DDS
nikhil	HR Management
nikita	HR management
vikas	Task track
vikas	CLP
vikas	Survey management

9 rows in set (0.00 sec)

2. Get employee name, project name order by firstname from "EmployeeDetail" and "ProjectDetail" for all employees even if they have not assigned a project.

```
mysql> select first_name,project_name from employee A LEFT OUTER JOIN project B on A.employeeid=B.employeeid order by first_name;
```

first_name	project_name
anish	GL Management
ashish	Task track
ashish	GRS
ashish	DDS
nikhil	HR Management
nikita	HR management
vikas	Task track
vikas	CLP
vikas	Survey management

9 rows in set (0.00 sec)

3. Get all project names even if they have not matching any employeeid, in the left table, order by firstname from "EmployeeDetail" and "ProjectDetail".

```
mysql> select first_name,project_name from employee A RIGHT OUTER JOIN project B ON A.employeeid=B.employeeid order by first_name;
```

first_name	project_name
anish	GL Management
ashish	GRS
ashish	DDS
ashish	Task track
nikhil	HR Management
nikita	HR management
vikas	Survey management
vikas	Task track
vikas	CLP

9 rows in set (0.00 sec)

4. Get complete record(employee name, project name) from both tables([EmployeeDetail],[ProjectDetail]), if no match is found in any table then show NULL.

```
mysql> select A.first_name,B.project_name from employee A LEFT JOIN project B ON A.employeeid = B.employeeid UNION select A.first_name,B.project_name from project B LEFT JOIN employee A ON B.employeeid = B.employeeid WHERE A.employeeid IS NULL ORDER BY first_name;
```

first_name	project_name
anish	GL Management
ashish	GRS
ashish	DDS
ashish	Task track
nikhil	HR Management
nikita	HR management
vikas	CLP
vikas	Survey management
vikas	Task track

9 rows in set (0.00 sec)



## SET 7

### PL/SQL

1. Write a PL/SQL program to Q \*Hellow world

```
mysql> DELIMITER //;
mysql> create procedure helloworld()
-> begin
-> declare message varchar(25);
-> set message='Hello,World!';
-> select message;
-> end//;
Query OK, 0 rows affected (0.04 sec)

mysql> call helloworld();
-> //;
+-----+
| message |
+-----+
| Hello,World! |
+-----+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)
```

2. Write PL/SQL program to find sum of two number using Function

```
mysql> DELIMITER //
mysql> create function addrl(a int,b int)
-> returns int deterministic
-> begin
-> declare c int;
-> set c = (a+b);
-> return c;
-> end //
Query OK, 0 rows affected (0.00 sec)

mysql> select addrl(5,6);
-> //;
+-----+
| addrl(5,6) |
+-----+
|          11 |
+-----+
1 row in set (0.00 sec)
```

3. Write PL/SQL program to find Factorial of a Number using Procedure

```
mysql> delimiter //;
mysql> create procedure fact(in x int)
-> begin
-> declare result int;
-> declare i int;
-> set result = 1;
-> set i = 1;
-> while i <= x do
-> set result = result * i;
-> set i = (i+1);
-> end while;
-> select concat('the factorial',x,'is',result);
-> end //;
```

Query OK, 0 rows affected (0.00 sec)

```
mysql> call fact(6);
-> //;
```

```
+-----+
| concat('the factorial',x,'is',result) |
+-----+
| the factorial6is720                    |
+-----+
```

1 row in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

## SET 8

### PL/SQL-CURSOR

```
mysql> delimiter //
mysql> create procedure pass_stude()
-> begin
-> declare mrk int;
-> declare nm varchar(10);
-> declare v_finish int default 0;
-> declare cur_1 cursor for select name, marks from studentinfo where marks>39;
-> declare continue handler for not found set v_finish=1;
-> open cur_1;
-> get_stud:loop
-> fetch cur_1 into nm,mrk;
-> select nm,mrk;
-> if v_finish=1 then leave get_stud;
-> end if;
-> end loop get_stud;
-> end//
```

Query OK, 0 rows affected (0.00 sec)

```
mysql> delimiter ;
mysql> select * from studentinfo;
```

id	name	pass	mobilen	marks
1	shital	mypass	9988776699	50
2	amal	pass11	9988776688	50
3	amit	pass22	9988446688	67
4	baba	pass33	9878446688	67
5	shree	pass44	9878123688	27
6	harish	pass55	9878123321	37
7	mathew	pass66	9878124561	88
8	thoma	pass66	9855124561	18

```
8 rows in set (0.00 sec)
```

## PL/SQL -TRIGGER

```
mysql> delimiter //
mysql> create trigger checkage before insert on people for each row if new.age<0
    then set new.age=0;end if;//
Query OK, 0 rows affected (0.05 sec)

mysql> delimiter ;
mysql> insert into people values(-20,'sidharth');
Query OK, 1 row affected (0.02 sec)

mysql> insert into people values(-10,'mikku');
Query OK, 1 row affected (0.02 sec)

mysql> select * from people;
+-----+-----+
| age | name |
+-----+-----+
| 30 | Amal |
| 0 | sidharth |
| 0 | mikku |
+-----+-----+
3 rows in set (0.00 sec)
```