***Database Management System***

***Lab Programs:***

***1Q.DDL Commands-(Create,Alter,Drop)***

**DDL Commands** – CREATE, ALTER, DROP, TRUNCATE

Create a Table as students with the fields Std\_id, Std\_Name, Gender, Phone, DOB ,and department. Alter the Table by adding a column year. Drop the column department.

mysql> CREATE TABLE Student

-> (Std\_ID int(5),

-> std\_Name char(20),

-> Gender char(5),

-> Phone int(15),

-> DOB date,

-> Department char(20));

Query OK, 0 rows affected (0.11 sec)

mysql> desc Student;

+------------+----------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+------------+----------+------+-----+---------+-------+

| Std\_ID | int(5) | YES | | NULL | |

| std\_Name | char(20) | YES | | NULL | |

| Gender | char(5) | YES | | NULL | |

| Phone | int(15) | YES | | NULL | |

| DOB | date | YES | | NULL | |

| Department | char(20) | YES | | NULL | |

+------------+----------+------+-----+---------+-------+

6 rows in set (0.01 sec)

mysql> ALTER TABLE Student

-> ADD COLUMN Year int(5);

Query OK, 0 rows affected (0.15 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc Student;

+------------+----------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+------------+----------+------+-----+---------+-------+

| Std\_ID | int(5) | YES | | NULL | |

| std\_Name | char(20) | YES | | NULL | |

| Gender | char(5) | YES | | NULL | |

| Phone | int(15) | YES | | NULL | |

| DOB | date | YES | | NULL | |

| Department | char(20) | YES | | NULL | |

| Year | int(5) | YES | | NULL | |

+------------+----------+------+-----+---------+-------+

7 rows in set (0.02 sec)

mysql> ALTER TABLE Student

-> DROP COLUMN Department;

Query OK, 0 rows affected (0.14 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc Student;

+----------+----------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+----------+----------+------+-----+---------+-------+

| Std\_ID | int(5) | YES | | NULL | |

| std\_Name | char(20) | YES | | NULL | |

| Gender | char(5) | YES | | NULL | |

| Phone | int(15) | YES | | NULL | |

| DOB | date | YES | | NULL | |

| Year | int(5) | YES | | NULL | |

+----------+----------+------+-----+---------+-------+

6 rows in set (0.01 sec)

*2Q.DDL Commands with Contraints-(Primarykey, Foreignkey, Unique,Check)*

mysql> desc actor;

+-------------------+----------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------------------+----------+------+-----+---------+-------+

| actor\_rank | int(10) | YES | | NULL | |

| actor\_name | char(20) | YES | | NULL | |

| actor\_gender | char(2) | YES | | NULL | |

| actor\_role | char(20) | YES | | NULL | |

| actor\_moviesacted | int(60) | YES | | NULL | |

+-------------------+----------+------+-----+---------+-------+

5 rows in set (0.04 sec)

mysql> alter table actor add primary key(actor\_name);

Query OK, 0 rows affected (0.19 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc actor;

+-------------------+----------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------------------+----------+------+-----+---------+-------+

| actor\_rank | int(10) | YES | | NULL | |

| actor\_name | char(20) | NO | PRI | | |

| actor\_gender | char(2) | YES | | NULL | |

| actor\_role | char(20) | YES | | NULL | |

| actor\_moviesacted | int(60) | YES | | NULL | |

+-------------------+----------+------+-----+---------+-------+

5 rows in set (0.07 sec)

mysql> use sridhar;

Database changed

mysql> desc persons;

+-------------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------------+-------------+------+-----+---------+-------+

| personid | int(11) | NO | PRI | NULL | |

| person\_name | varchar(30) | YES | | NULL | |

+-------------+-------------+------+-----+---------+-------+

2 rows in set (0.06 sec)

mysql> CREATE TABLE Orders(OrderID int NOT NULL,OrderNumber int NOT NULL, PersonID int, PRIMARY KEY (OrderID),FOREIGN KEY (PersonID) REFERENCES Persons(PersonID));

Query OK, 0 rows affected (0.10 sec)

mysql> desc orders;

+-------------+---------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------------+---------+------+-----+---------+-------+

| OrderID | int(11) | NO | PRI | NULL | |

| OrderNumber | int(11) | NO | | NULL | |

| PersonID | int(11) | YES | MUL | NULL | |

+-------------+---------+------+-----+---------+-------+

3 rows in set (0.01 sec)

mysql> alter table orders add unique(orderNumber);

Query OK, 0 rows affected (0.14 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc orders;

+-------------+---------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------------+---------+------+-----+---------+-------+

| OrderID | int(11) | NO | PRI | NULL | |

| OrderNumber | int(11) | NO | UNI | NULL | |

| PersonID | int(11) | YES | MUL | NULL | |

+-------------+---------+------+-----+---------+-------+

3 rows in set (0.02 sec)

*3Q.DML Commands –(Insert,Select)*

mysql> desc Student;

+----------+----------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+----------+----------+------+-----+---------+-------+

| Std\_ID | int(5) | YES | | NULL | |

| std\_Name | char(20) | YES | | NULL | |

| Gender | char(5) | YES | | NULL | |

| Phone | int(15) | YES | | NULL | |

| DOB | date | YES | | NULL | |

| Year | int(5) | YES | | NULL | |

+----------+----------+------+-----+---------+-------+

6 rows in set (0.02 sec)

mysql> INSERT INTO Student VALUES(123,'Raghu','M',9182571,'2002/08/10',2),(143,'Ram','M',8179646,'2003/04/09',1),(153,'Ruchi','F','78935384','2005/06/25',3);

Query OK, 3 rows affected (0.06 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> SELECT \* FROM Student;

+--------+----------+--------+----------+------------+------+

| Std\_ID | std\_Name | Gender | Phone | DOB | Year |

+--------+----------+--------+----------+------------+------+

| 123 | Raghu | M | 9182571 | 2002-08-10 | 2 |

| 143 | Ram | M | 8179646 | 2003-04-09 | 1 |

| 153 | Ruchi | F | 78935384 | 2005-06-25 | 3 |

+--------+----------+--------+----------+------------+------+

3 rows in set (0.00 sec)

mysql> SELECT std\_Name from Student;

+----------+

| std\_Name |

+----------+

| Raghu |

| Ram |

| Ruchi |

+----------+

3 rows in set (0.00 sec)

mysql> SELECT \* FROM Student WHERE std\_Name = 'Raghu';

+--------+----------+--------+---------+------------+------+

| Std\_ID | std\_Name | Gender | Phone | DOB | Year |

+--------+----------+--------+---------+------------+------+

| 123 | Raghu | M | 9182571 | 2002-08-10 | 2 |

+--------+----------+--------+---------+------------+------+

1 row in set (0.00 sec)

*3bQ.DML Commands-(Update,Delete)*

mysql> select\*from persons;

+------+------------+-------------+-----------+--------------------+

| p\_id | first\_name | last\_name | address | city |

+------+------------+-------------+-----------+--------------------+

| 3 | raghu | ram | Chennai | chennai |

| 1 | shilpa | shetty | telangana | hyderabad |

| 2 | vijay | devarakonda | karnataka | bangalore |

| 4 | anushka | sharma | andhra | vizag |

| 5 | ram | pothineni | kerala | thiruvananthapuram |

+------+------------+-------------+-----------+--------------------+

5 rows in set (0.00 sec)

mysql> delete from persons

-> where p\_id=1;

Query OK, 1 row affected (0.05 sec)

mysql> select\*from persons;

+------+------------+-------------+-----------+--------------------+

| p\_id | first\_name | last\_name | address | city |

+------+------------+-------------+-----------+--------------------+

| 3 | raghu | ram | chennai | chennai |

| 2 | vijay | devarakonda | karnataka | bangalore |

| 4 | anushka | sharma | andhra | vizag |

| 5 | ram | pothineni | kerala | thiruvananthapuram |

+------+------------+-------------+-----------+--------------------+

4 rows in set (0.00 sec)

mysql> update persons

-> set address='Tamilnadu'

-> where p\_id=3;

Query OK, 1 row affected (0.05 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select\*from persons;

+------+------------+-------------+-----------+--------------------+

| p\_id | first\_name | last\_name | address | city |

+------+------------+-------------+-----------+--------------------+

| 3 | raghu | ram | Tamilnadu | chennai |

| 1 | shilpa | shetty | telangana | hyderabad |

| 2 | vijay | devarakonda | karnataka | bangalore |

| 4 | anushka | sharma | andhra | vizag |

| 5 | ram | pothineni | kerala | thiruvananthapuram |

+------+------------+-------------+-----------+--------------------+

5 rows in set (0.00 sec)

*4aQ. SELECT with various clause-(Where, pattern matching)*

mysql> select \* from marks;

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 1 | Ram | physics | 89 | A |

| 2 | Ruchi | maths | 77 | B |

| 3 | Varu | chemistry | 88 | B |

+-------+---------------------+-----------+-------+-------+

4 rows in set (0.08 sec)

mysql> select \* from marks where sl\_no=2;

+-------+---------------------+---------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+---------+-------+-------+

| 2 | Ruchi | maths | 77 | B |

+-------+---------------------+---------+-------+-------+

1 row in set (0.16 sec)

mysql> select \*from marks where Grade='A';

+-------+---------------------+---------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+---------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 1 | Ram | physics | 89 | A |

+-------+---------------------+---------+-------+-------+

2 rows in set (0.00 sec)

*4b.Q.SELECT with various clause – (Between, In, Aggregate Fuction)*

mysql> select \* from marks;

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 1 | Ram | physics | 89 | A |

| 2 | Ruchi | maths | 77 | B |

| 3 | Varu | chemistry | 88 | B |

+-------+---------------------+-----------+-------+-------+

4 rows in set (0.02 sec)

mysql> select \*from marks

-> where subject IN('dbms','maths');

+-------+---------------------+---------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+---------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 2 | Ruchi | maths | 77 | B |

+-------+---------------------+---------+-------+-------+

2 rows in set (0.00 sec)

mysql> select\*from marks

-> where subject BETWEEN 'chemistry' AND 'maths';

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 2 | Ruchi | maths | 77 | B |

| 3 | Varu | chemistry | 88 | B |

+-------+---------------------+-----------+-------+-------+

3 rows in set (0.02 sec)

mysql> select\*from marks

-> where subject NOT BETWEEN 'chemistry' AND 'maths';

+-------+---------------------+---------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+---------+-------+-------+

| 1 | Ram | physics | 89 | A |

+-------+---------------------+---------+-------+-------+

1 row in set (0.00 sec)

mysql> select count(subject) from marks;

+----------------+

| count(subject) |

+----------------+

| 4 |

+----------------+

1 row in set (0.00 sec)

mysql> select sum(marks)as total\_sum from marks;

+-----------+

| total\_sum |

+-----------+

| 353 |

+-----------+

1 row in set (0.00 sec)

mysql> select max(marks)from marks;

+------------+

| max(marks) |

+------------+

| 99 |

+------------+

1 row in set (0.00 sec)

mysql> select min(marks)from marks;

+------------+

| min(marks) |

+------------+

| 77 |

+------------+

1 row in set (0.00 sec)

mysql> select avg(marks) from marks;

+------------+

| avg(marks) |

+------------+

| 88.2500 |

+------------+

1 row in set (0.00 sec)

*5Q. SELECT with various clause-(Group by, Order by, Having)*

mysql> select \*from marks;

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 1 | Ram | physics | 89 | A |

| 2 | Ruchi | maths | 77 | B |

| 3 | Varu | chemistry | 88 | B |

+-------+---------------------+-----------+-------+-------+

4 rows in set (0.03 sec)

mysql> select \* from marks order by subject;

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 3 | Varu | chemistry | 88 | B |

| 1 | Raghu | dbms | 99 | A |

| 2 | Ruchi | maths | 77 | B |

| 1 | Ram | physics | 89 | A |

+-------+---------------------+-----------+-------+-------+

4 rows in set (0.03 sec)

mysql> select \* from marks order by Marks;

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 2 | Ruchi | maths | 77 | B |

| 3 | Varu | chemistry | 88 | B |

| 1 | Ram | physics | 89 | A |

| 1 | Raghu | dbms | 99 | A |

+-------+---------------------+-----------+-------+-------+

4 rows in set (0.00 sec)

mysql> select \* from marks group by sl\_no;

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 2 | Ruchi | maths | 77 | B |

| 3 | Varu | chemistry | 88 | B |

+-------+---------------------+-----------+-------+-------+

3 rows in set (0.05 sec)

mysql> select \* from marks group by Grade;

+-------+---------------------+---------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+---------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 2 | Ruchi | maths | 77 | B |

+-------+---------------------+---------+-------+-------+

2 rows in set (0.00 sec)

mysql> select \* from marks

-> group by Marks

-> having Marks>80;

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 3 | Varu | chemistry | 88 | B |

| 1 | Ram | physics | 89 | A |

| 1 | Raghu | dbms | 99 | A |

+-------+---------------------+-----------+-------+-------+

3 rows in set (0.06 sec)

mysql> select \* from marks

-> having Marks>90;

+-------+---------------------+---------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+---------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

+-------+---------------------+---------+-------+-------+

1 row in set (0.00 sec)

*6Q. SubQuery & Correlated Query*

mysql> select \* from std;

+------+------------+-----------+------+-----------+-----------+

| ID | first\_name | last\_name | age | subject | games |

+------+------------+-----------+------+-----------+-----------+

| 1 | rahul | sharma | 12 | maths | football |

| 34 | anjali | bhagwat | 14 | science | cricket |

| 104 | stephen | fleming | 9 | maths | badminton |

| 99 | priya | chandra | 15 | economics | chess |

| 50 | shekar | gowda | 18 | maths | badminton |

+------+------------+-----------+------+-----------+-----------+

5 rows in set (0.00 sec)

mysql> select ID,first\_name from std where first\_name IN(select first\_name from std where subject='maths');

+------+------------+

| ID | first\_name |

+------+------------+

| 1 | rahul |

| 104 | stephen |

| 50 | shekar |

+------+------------+

3 rows in set (0.00 sec)

mysql> desc test;

+-------+----------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------+----------+------+-----+---------+-------+

| id | int(3) | YES | | NULL | |

| name | char(20) | YES | | NULL | |

+-------+----------+------+-----+---------+-------+

2 rows in set (0.01 sec)

mysql> insert into test(id,name)

-> select ID,first\_name

-> from std where games='badminton';

Query OK, 2 rows affected (0.05 sec)

Records: 2 Duplicates: 0 Warnings: 0

mysql> select\*from test;

+------+---------+

| id | name |

+------+---------+

| 104 | stephen |

| 50 | shekar |

+------+---------+

2 rows in set (0.00 sec)

mysql> select id,(select name from test where id=104) as name,age,subject games from std where id=104;

+------+---------+------+-------+

| id | name | age | games |

+------+---------+------+-------+

| 104 | stephen | 9 | maths |

+------+---------+------+-------+

1 row in set (0.04 sec)

mysql> select\*from std where age>=(select avg(age)from std);

+------+------------+-----------+------+-----------+-----------+

| ID | first\_name | last\_name | age | subject | games |

+------+------------+-----------+------+-----------+-----------+

| 34 | anjali | bhagwat | 14 | science | cricket |

| 99 | priya | chandra | 15 | economics | chess |

| 50 | shekar | gowda | 18 | maths | badminton |

+------+------------+-----------+------+-----------+-----------+

3 rows in set (0.08 sec)

*7Q. Joins - EquiJoin, InnerJoin, Outer Join*

mysql> select \* from order\_idems;

+----------+------------+-------------+----------+

| order\_id | product\_id | total\_units | customer |

+----------+------------+-------------+----------+

| 5100 | 104 | 30 | infosys |

| 5101 | 102 | 25 | satyam |

| 5102 | 103 | 25 | wipro |

| 5103 | 101 | 10 | tcs |

+----------+------------+-------------+----------+

4 rows in set (0.00 sec)

mysql> select \* from product;

+------+--------------+---------------+------------+

| p\_id | p\_name | supplier\_name | unit\_price |

+------+--------------+---------------+------------+

| 101 | camera | nikon | 300 |

| 100 | television | onida | 100 |

| 102 | refrigerator | vediocon | 150 |

| 103 | ipod | apple | 75 |

| 104 | mobile | oppo | 50 |

+------+--------------+---------------+------------+

5 rows in set (0.00 sec)

mysql> select order\_id,p\_name,unit\_price,supplier\_name,total\_units,customer

-> from product,order\_idems

-> where order\_idems.product\_id=product.p\_id;

+----------+--------------+------------+---------------+-------------+----------+

| order\_id | p\_name | unit\_price | supplier\_name | total\_units | customer |

+----------+--------------+------------+---------------+-------------+----------+

| 5103 | camera | 300 | nikon | 10 | tcs |

| 5101 | refrigerator | 150 | vediocon | 25 | satyam |

| 5102 | ipod | 75 | apple | 25 | wipro |

| 5100 | mobile | 50 | oppo | 30 | infosys |

+----------+--------------+------------+---------------+-------------+----------+

4 rows in set (0.03 sec)

mysql> select order\_id,p\_name,unit\_price,supplier\_name,total\_units,customer

-> from product p,order\_idems o

-> where o.product\_id=p.p\_id;

+----------+--------------+------------+---------------+-------------+----------+

| order\_id | p\_name | unit\_price | supplier\_name | total\_units | customer |

+----------+--------------+------------+---------------+-------------+----------+

| 5103 | camera | 300 | nikon | 10 | tcs |

| 5101 | refrigerator | 150 | vediocon | 25 | satyam |

| 5102 | ipod | 75 | apple | 25 | wipro |

| 5100 | mobile | 50 | oppo | 30 | infosys |

+----------+--------------+------------+---------------+-------------+----------+

4 rows in set (0.00 sec)

mysql> select p\_id,p\_name,order\_id,total\_units

-> from product

-> left outer join order\_idems

-> on product.p\_id=order\_idems.product\_id;

+------+--------------+----------+-------------+

| p\_id | p\_name | order\_id | total\_units |

+------+--------------+----------+-------------+

| 101 | camera | 5103 | 10 |

| 100 | television | NULL | NULL |

| 102 | refrigerator | 5101 | 25 |

| 103 | ipod | 5102 | 25 |

| 104 | mobile | 5100 | 30 |

+------+--------------+----------+-------------+

5 rows in set (0.00 sec)

mysql> select p\_id,p\_name,order\_id,total\_units

-> from product

-> right outer join order\_idems

-> on product.p\_id=order\_idems.product\_id;

+------+--------------+----------+-------------+

| p\_id | p\_name | order\_id | total\_units |

+------+--------------+----------+-------------+

| 104 | mobile | 5100 | 30 |

| 102 | refrigerator | 5101 | 25 |

| 103 | ipod | 5102 | 25 |

| 101 | camera | 5103 | 10 |

+------+--------------+----------+-------------+

4 rows in set (0.00 sec)

*10Q.VIEW, INDEX, SEQUENCE*

mysql> select \* from marks;

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 1 | Ram | physics | 89 | A |

| 2 | Ruchi | maths | 77 | B |

| 3 | Varu | chemistry | 88 | B |

+-------+---------------------+-----------+-------+-------+

4 rows in set (0.00 sec)

mysql> create view marks\_view as select subject, Marks and grade from marks;

Query OK, 0 rows affected (0.08 sec)

mysql> select \* from marks\_view;

+-----------+-----------------+

| subject | Marks and grade |

+-----------+-----------------+

| dbms | 0 |

| physics | 0 |

| maths | 0 |

| chemistry | 0 |

+-----------+-----------------+

4 rows in set, 4 warnings (0.02 sec)

mysql> create index subject on marks(subject);

Query OK, 0 rows affected (0.20 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> show index from marks;

+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+

| Table | Non\_unique | Key\_name | Seq\_in\_index | Column\_name | Collation | Cardinality | Sub\_part | Packed | Null | Index\_type | Comment | Index\_comment |

+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+

| marks | 1 | subject | 1 | subject | A | 4 | NULL | NULL | YES | BTREE | | |

+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+

1 row in set (0.03 sec)

*11Q. Simple programming exercise using CASE, IF, ITERATE, LEAVE, LOOP*

mysql> select \* from marks;

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 1 | Ram | physics | 89 | A |

| 2 | Ruchi | maths | 77 | B |

| 3 | Varu | chemistry | 88 | B |

+-------+---------------------+-----------+-------+-------+

4 rows in set (0.00 sec)

mysql> insert into marks values(6,'suma','english',90,'A');

Query OK, 1 row affected (0.05 sec)

mysql> select Name\_of\_the\_student,Marks,

-> case

-> when Marks < 90 then 'excellent'

-> when Marks = 90 then 'good'

-> else 'average'

-> end performance

-> from marks;

+---------------------+-------+-------------+

| Name\_of\_the\_student | Marks | performance |

+---------------------+-------+-------------+

| Raghu | 99 | average |

| Ram | 89 | excellent |

| Ruchi | 77 | excellent |

| Varu | 88 | excellent |

| suma | 90 | good |

+---------------------+-------+-------------+

5 rows in set (0.02 sec)

mysql> select\* from marks;

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 1 | Ram | physics | 89 | A |

| 2 | Ruchi | maths | 77 | B |

| 3 | Varu | chemistry | 88 | B |

| 6 | suma | english | 90 | A |

+-------+---------------------+-----------+-------+-------+

5 rows in set (0.00 sec)

mysql> insert into marks values(4,'vamshi','bio',60,'C'),(5,'mahesh','eng',55,'D');

Query OK, 2 rows affected (0.06 sec)

Records: 2 Duplicates: 0 Warnings: 0

mysql> select \* from marks;

+-------+---------------------+-----------+-------+-------+

| sl\_no | Name\_of\_the\_student | subject | Marks | Grade |

+-------+---------------------+-----------+-------+-------+

| 1 | Raghu | dbms | 99 | A |

| 1 | Ram | physics | 89 | A |

| 2 | Ruchi | maths | 77 | B |

| 3 | Varu | chemistry | 88 | B |

| 6 | suma | english | 90 | A |

| 4 | vamshi | bio | 60 | C |

| 5 | mahesh | eng | 55 | D |

+-------+---------------------+-----------+-------+-------+

7 rows in set (0.00 sec)

mysql> select Name\_of\_the\_student,marks,

-> if (Marks > 80,'Good marks','average marks')

-> from marks;

+---------------------+-------+----------------------------------------------+

| Name\_of\_the\_student | marks | if (Marks > 80,'Good marks','average marks') |

+---------------------+-------+----------------------------------------------+

| Raghu | 99 | Good marks |

| Ram | 89 | Good marks |

| Ruchi | 77 | average marks |

| Varu | 88 | Good marks |

| suma | 90 | Good marks |

| vamshi | 60 | average marks |

| mahesh | 55 | average marks |

+---------------------+-------+----------------------------------------------+

7 rows in set (0.00 sec)

*12Q. Simple programming exercise using WHILE*

*13Q.TCL Commands – SAVEPOINT*

mysql> create table school(id int(2),school\_name varchar(20),no\_of\_students int(20),no\_of\_teachers int(10));

Query OK, 0 rows affected (0.11 sec)

mysql> start transaction;

Query OK, 0 rows affected (0.00 sec)

mysql> insert into school values(1,'Model school',600,30),(2,'RV school',500,20),(3,'high school',1000,40);

Query OK, 3 rows affected (0.00 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> select \* from school;

+------+--------------+----------------+----------------+

| id | school\_name | no\_of\_students | no\_of\_teachers |

+------+--------------+----------------+----------------+

| 1 | Model school | 600 | 30 |

| 2 | RV school | 500 | 20 |

| 3 | high school | 1000 | 40 |

+------+--------------+----------------+----------------+

3 rows in set (0.00 sec)

mysql> commit;

Query OK, 0 rows affected (0.05 sec)

mysql> set autocommit=0;

Query OK, 0 rows affected (0.03 sec)

mysql> savepoint insertion;

Query OK, 0 rows affected (0.00 sec)

mysql> update school set no\_of\_students=700 where id=1;

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select \* from school;

+------+--------------+----------------+----------------+

| id | school\_name | no\_of\_students | no\_of\_teachers |

+------+--------------+----------------+----------------+

| 1 | Model school | 700 | 30 |

| 2 | RV school | 500 | 20 |

| 3 | high school | 1000 | 40 |

+------+--------------+----------------+----------------+

3 rows in set (0.00 sec)

mysql> savepoint updation;

Query OK, 0 rows affected (0.00 sec)

mysql> rollback to insertion;

Query OK, 0 rows affected (0.06 sec)

mysql> select \* from school;

+------+--------------+----------------+----------------+

| id | school\_name | no\_of\_students | no\_of\_teachers |

+------+--------------+----------------+----------------+

| 1 | Model school | 600 | 30 |

| 2 | RV school | 500 | 20 |

| 3 | high school | 1000 | 40 |

+------+--------------+----------------+----------------+

3 rows in set (0.00 sec)

*14Q.DCL Commands – GRANT, REVOKE*

mysql> desc persons;

+------------+----------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+------------+----------+------+-----+---------+-------+

| p\_id | int(1) | NO | PRI | 0 | |

| first\_name | char(20) | YES | | NULL | |

| last\_name | char(20) | YES | | NULL | |

| address | char(20) | YES | | NULL | |

| city | char(20) | YES | | NULL | |

+------------+----------+------+-----+---------+-------+

5 rows in set (0.05 sec)

mysql> create user aaaa;

Query OK, 0 rows affected (0.50 sec)

mysql> grant all on persons to aaaa;

Query OK, 0 rows affected (0.03 sec)

mysql> show grants for aaaa;

+-------------------------------------------------------+

| Grants for aaaa@% |

+-------------------------------------------------------+

| GRANT USAGE ON \*.\* TO 'aaaa'@'%' |

| GRANT ALL PRIVILEGES ON `ram`.`persons` TO 'aaaa'@'%' |

+-------------------------------------------------------+

2 rows in set (0.00 sec)

mysql> revoke all on persons from aaaa;

Query OK, 0 rows affected (0.03 sec)

mysql> show grants for aaaa;

+----------------------------------+

| Grants for aaaa@% |

+----------------------------------+

| GRANT USAGE ON \*.\* TO 'aaaa'@'%' |

+----------------------------------+

1 row in set (0.02 sec)

mysql> grant select,update on persons to aaaa;

Query OK, 0 rows affected (0.06 sec)

mysql> show grants for aaaa;

+-------------------------------------------------------+

| Grants for aaaa@% |

+-------------------------------------------------------+

| GRANT USAGE ON \*.\* TO 'aaaa'@'%' |

| GRANT SELECT, UPDATE ON `ram`.`persons` TO 'aaaa'@'%' |

+-------------------------------------------------------+

2 rows in set (0.00 sec)

mysql> revoke update on persons from aaaa;

Query OK, 0 rows affected (0.00 sec)

mysql> show grants for aaaa;

+-----------------------------------------------+

| Grants for aaaa@% |

+-----------------------------------------------+

| GRANT USAGE ON \*.\* TO 'aaaa'@'%' |

| GRANT SELECT ON `ram`.`persons` TO 'aaaa'@'%' |

+-----------------------------------------------+

2 rows in set (0.00 sec)

*15Q. High Level Programming Extentions – Procedures*

mysql> select \* from std;

+------+------------+-----------+------+-----------+-----------+

| ID | first\_name | last\_name | age | subject | games |

+------+------------+-----------+------+-----------+-----------+

| 1 | rahul | sharma | 12 | maths | football |

| 34 | anjali | bhagwat | 14 | science | cricket |

| 104 | stephen | fleming | 9 | maths | badminton |

| 99 | priya | chandra | 15 | economics | chess |

| 50 | shekar | gowda | 18 | maths | badminton |

+------+------------+-----------+------+-----------+-----------+

5 rows in set (0.05 sec)

mysql> DELIMITER //

mysql> CREATE PROCEDURE student ()

-> BEGIN

-> SELECT ID, first\_name

-> FROM std

-> WHERE subject = 'maths';

-> END //

Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;

mysql> CALL student ();

+------+------------+

| ID | first\_name |

+------+------------+

| 1 | rahul |

| 104 | stephen |

| 50 | shekar |

+------+------------+

3 rows in set (0.08 sec)

Query OK, 0 rows affected (0.09 sec)

mysql> SELECT \* FROM std WHERE subject = 'maths';

+------+------------+-----------+------+---------+-----------+

| ID | first\_name | last\_name | age | subject | games |

+------+------------+-----------+------+---------+-----------+

| 1 | rahul | sharma | 12 | maths | football |

| 104 | stephen | fleming | 9 | maths | badminton |

| 50 | shekar | gowda | 18 | maths | badminton |

+------+------------+-----------+------+---------+-----------+

3 rows in set (0.00 sec)

*16Q. High Level Programming Extensions – Function*

*17Q. SQL String Functions – Repeat, Replicate*

mysql> select \* from persons;

+------+---------+------+

| p\_id | name | age |

+------+---------+------+

| 1 | sridhar | 20 |

| 2 | kiran | 21 |

| 3 | uday | 19 |

+------+---------+------+

3 rows in set (0.00 sec)

mysql> select repeat(name,2) from persons;

+----------------+

| repeat(name,2) |

+----------------+

| sridharsridhar |

| kirankiran |

| udayuday |

+----------------+

3 rows in set (0.05 sec)

*18Q. TCL Commands- COMMIT, ROLLBACK*

mysql> select \* from bd;

+---------+-------+

| names | marks |

+---------+-------+

| Raghu | 9 |

| Krishna | 7 |

| Ram | 8 |

| Ruchi | 10 |

| jack | 6 |

| zack | 8 |

| burno | 9 |

| suma | 5 |

+---------+-------+

8 rows in set (0.00 sec)

mysql> select @@autocommit;

+--------------+

| @@autocommit |

+--------------+

| 1 |

+--------------+

1 row in set (0.00 sec)

mysql> insert into bd values ('Chandra',7);

Query OK, 1 row affected (0.03 sec)

mysql> select \* from bd;

+---------+-------+

| names | marks |

+---------+-------+

| Raghu | 9 |

| Krishna | 7 |

| Ram | 8 |

| Ruchi | 10 |

| jack | 6 |

| zack | 8 |

| burno | 9 |

| suma | 5 |

| Chandra | 7 |

+---------+-------+

9 rows in set (0.00 sec)

mysql> set autocommit=0;

Query OK, 0 rows affected (0.03 sec)

mysql> select @@autocommit;

+--------------+

| @@autocommit |

+--------------+

| 0 |

+--------------+

1 row in set (0.01 sec)

mysql> delete from bd where marks=7;

Query OK, 2 rows affected (0.00 sec)

mysql> select \* from bd;

+-------+-------+

| names | marks |

+-------+-------+

| Raghu | 9 |

| Ram | 8 |

| Ruchi | 10 |

| jack | 6 |

| zack | 8 |

| burno | 9 |

| suma | 5 |

+-------+-------+

7 rows in set (0.00 sec)

mysql> rollback;

Query OK, 0 rows affected (0.08 sec)

mysql> select \* from bd;

+---------+-------+

| names | marks |

+---------+-------+

| Raghu | 9 |

| Krishna | 7 |

| Ram | 8 |

| Ruchi | 10 |

| jack | 6 |

| zack | 8 |

| burno | 9 |

| suma | 5 |

| Chandra | 7 |

+---------+-------+

9 rows in set (0.00 sec)

*19Q. Database Connectivity – Using Simple MySQL*

*20Q. Case Scenario Basic SQL Queries Implementation for HRM database*

mysql> select \* from employee;

+------------+------+-----------+-------+------------+----------+------+--------+-----------+------+

| first\_name | mnit | last\_name | ssn | dob | address | sex | salart | superssn | dno |

+------------+------+-----------+-------+------------+----------+------+--------+-----------+------+

| john | b | varma | 26465 | 2002-08-10 | chennai | m | 30000 | 654964316 | 5 |

| raghu | g | netha | 5457 | 2003-09-10 | hyd | m | 85462 | 464565355 | 2 |

| ram | e | goud | 5543 | 2003-11-21 | banglore | m | 6564 | 355486545 | 3 |

| ruchi | a | netha | 78946 | 2005-06-25 | mumbai | f | 64458 | 64789898 | 4 |

| varu | d | teja | 5464 | 1999-02-12 | delhi | f | 54664 | 646468 | 2 |

+------------+------+-----------+-------+------------+----------+------+--------+-----------+------+

5 rows in set (0.06 sec)

mysql> select \* from dept;

+---------------+---------+--------+--------------+

| dname | dnumber | mgrssn | mgrstartdate |

+---------------+---------+--------+--------------+

| research | 3 | 465466 | 1999-02-15 |

| adminstration | 5 | 466846 | 2000-10-25 |

| headquarter | 1 | 46436 | 1995-05-20 |

+---------------+---------+--------+--------------+

3 rows in set (0.00 sec)

mysql> select e.first\_name,e.last\_name,e.salart,1.1\*salart as increment\_salary

-> from employee e,dept d

-> where e.dno=d.dnumber;

+------------+-----------+--------+------------------+

| first\_name | last\_name | salart | increment\_salary |

+------------+-----------+--------+------------------+

| john | varma | 30000 | 33000.0 |

| ram | goud | 6564 | 7220.4 |

+------------+-----------+--------+------------------+

2 rows in set (0.00 sec)

mysql> select sum(salart),min(salart),max(salart),avg(salart) from employee;

+-------------+-------------+-------------+-------------+

| sum(salart) | min(salart) | max(salart) | avg(salart) |

+-------------+-------------+-------------+-------------+

| 241148 | 6564 | 85462 | 48229.6000 |

+-------------+-------------+-------------+-------------+

1 row in set (0.06 sec)

mysql> select e.first\_name,e.last\_name,e.salart

-> from employee e

-> where exists(select dno from employee where e.dno=5);

+------------+-----------+--------+

| first\_name | last\_name | salart |

+------------+-----------+--------+

| john | varma | 30000 |

+------------+-----------+--------+

1 row in set (0.03 sec)

*21Q. Case Scenario Advanced SQL Queries Implementation for HRM database*

mysql> select \* from employee;

+------------+------+-----------+-------+------------+----------+------+--------+-----------+------+

| first\_name | mnit | last\_name | ssn | dob | address | sex | salart | superssn | dno |

+------------+------+-----------+-------+------------+----------+------+--------+-----------+------+

| john | b | varma | 26465 | 2002-08-10 | chennai | m | 30000 | 654964316 | 5 |

| raghu | g | netha | 5457 | 2003-09-10 | hyd | m | 85462 | 464565355 | 2 |

| ram | e | goud | 5543 | 2003-11-21 | banglore | m | 6564 | 355486545 | 3 |

| ruchi | a | netha | 78946 | 2005-06-25 | mumbai | f | 64458 | 64789898 | 4 |

| varu | d | teja | 5464 | 1999-02-12 | delhi | f | 54664 | 646468 | 2 |

+------------+------+-----------+-------+------------+----------+------+--------+-----------+------+

5 rows in set (0.06 sec)

mysql> select \* from dept;

+---------------+---------+--------+--------------+

| dname | dnumber | mgrssn | mgrstartdate |

+---------------+---------+--------+--------------+

| research | 3 | 465466 | 1999-02-15 |

| adminstration | 5 | 466846 | 2000-10-25 |

| headquarter | 1 | 46436 | 1995-05-20 |

+---------------+---------+--------+--------------+

3 rows in set (0.00 sec)

mysql> select first\_name,count(\*) from employee e,dept d where d.dnumber=e.dno

-> and d.dnumber in (select e1.dno from employee e1 group by e1.dno having count(\*)>=1)

-> order by dno;

+------------+----------+

| first\_name | count(\*) |

+------------+----------+

| john | 2 |

+------------+----------+

1 row in set (0.00 sec)

mysql> select first\_name,last\_name,dob

-> from employee

-> where dob>'2000/01/01';

+------------+-----------+------------+

| first\_name | last\_name | dob |

+------------+-----------+------------+

| john | varma | 2002-08-10 |

| raghu | netha | 2003-09-10 |

| ram | goud | 2003-11-21 |

| ruchi | netha | 2005-06-25 |

+------------+-----------+------------+

4 rows in set (0.00 sec)

mysql> select e.first\_name,e.last\_name,d.dname

-> from employee e

-> inner join dept d

-> on e.dno=d.dnumber;

+------------+-----------+---------------+

| first\_name | last\_name | dname |

+------------+-----------+---------------+

| john | varma | adminstration |

| ram | goud | research |

+------------+-----------+---------------+

2 rows in set (0.03 sec)

*22Q. Case Scenario SQL Queries Implementation for Book Publishing Company*

mysql> create table book\_publishing\_company

-> (bookno int(3),bookname char(20),author char(20),cost int(20));

Query OK, 0 rows affected (0.11 sec)

mysql> desc book\_publishing\_company;

+----------+----------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+----------+----------+------+-----+---------+-------+

| bookno | int(3) | YES | | NULL | |

| bookname | char(20) | YES | | NULL | |

| author | char(20) | YES | | NULL | |

| cost | int(20) | YES | | NULL | |

+----------+----------+------+-----+---------+-------+

4 rows in set (0.02 sec)

mysql> insert into book\_publishing\_company values(299,'physics','ram',199),(49,'chemistry','raghu',299),(143,'biology','suma','599'),(321,'maths','ramanujan',399);

Query OK, 4 rows affected (0.03 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> select \* from book\_publishing\_company;

+--------+-----------+-----------+------+

| bookno | bookname | author | cost |

+--------+-----------+-----------+------+

| 299 | physics | ram | 199 |

| 49 | chemistry | raghu | 299 |

| 143 | biology | suma | 599 |

| 321 | maths | ramanujan | 399 |

+--------+-----------+-----------+------+

4 rows in set (0.00 sec)

mysql> update book\_publishing\_company

-> set author='newton'

-> where bookno=299;

Query OK, 1 row affected (0.05 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select \* from book\_publishing\_company;

+--------+-----------+-----------+------+

| bookno | bookname | author | cost |

+--------+-----------+-----------+------+

| 299 | physics | newton | 199 |

| 49 | chemistry | raghu | 299 |

| 143 | biology | suma | 599 |

| 321 | maths | ramanujan | 399 |

+--------+-----------+-----------+------+

4 rows in set (0.00 sec)

mysql> insert into book\_publishing\_company values('35','english','ram',599);

Query OK, 1 row affected (0.03 sec)

mysql> select \*from book\_publishing\_company;

+--------+-----------+-----------+------+

| bookno | bookname | author | cost |

+--------+-----------+-----------+------+

| 299 | physics | newton | 199 |

| 49 | chemistry | raghu | 299 |

| 143 | biology | suma | 599 |

| 321 | maths | ramanujan | 399 |

| 35 | english | ram | 599 |

+--------+-----------+-----------+------+

5 rows in set (0.00 sec)

mysql> delete from book\_publishing\_company

-> where bookno=49;

Query OK, 1 row affected (0.05 sec)

mysql> select \* from book\_publishing\_company;

+--------+----------+-----------+------+

| bookno | bookname | author | cost |

+--------+----------+-----------+------+

| 299 | physics | newton | 199 |

| 143 | biology | suma | 599 |

| 321 | maths | ramanujan | 399 |

| 35 | english | ram | 599 |

+--------+----------+-----------+------+

4 rows in set (0.00 sec)

mysql> create table authors(author\_name char(20),subject\_related char(30),written\_book char(30));

Query OK, 0 rows affected (0.08 sec)

mysql> desc authors;

+-----------------+----------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-----------------+----------+------+-----+---------+-------+

| author\_name | char(20) | YES | | NULL | |

| subject\_related | char(30) | YES | | NULL | |

| written\_book | char(30) | YES | | NULL | |

+-----------------+----------+------+-----+---------+-------+

3 rows in set (0.02 sec)

mysql> insert into authors values('newton','physics','gravity'),('sum','bioscience','heart\_function'),('ramanujan','maths','simple\_equations');

Query OK, 3 rows affected (0.05 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> select \*from authors;

+-------------+-----------------+------------------+

| author\_name | subject\_related | written\_book |

+-------------+-----------------+------------------+

| newton | physics | gravity |

| sum | bioscience | heart\_function |

| ramanujan | maths | simple\_equations |

+-------------+-----------------+------------------+

3 rows in set (0.00 sec)

mysql> insert into authors values('ram','english','spoken\_english');

Query OK, 1 row affected (0.03 sec)

mysql> select \* from authors;

+-------------+-----------------+------------------+

| author\_name | subject\_related | written\_book |

+-------------+-----------------+------------------+

| newton | physics | gravity |

| sum | bioscience | heart\_function |

| ramanujan | maths | simple\_equations |

| ram | english | spoken\_english |

+-------------+-----------------+------------------+

4 rows in set (0.00 sec)

*23Q. Case Scenario SQL Queries Implementation for General Hospital*

mysql> create table patients(p\_id int(5),patient\_name char(20),disease char(20),tests char(20),phoneno int(15));

Query OK, 0 rows affected (0.08 sec)

mysql> desc patients;

+--------------+----------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+--------------+----------+------+-----+---------+-------+

| p\_id | int(5) | YES | | NULL | |

| patient\_name | char(20) | YES | | NULL | |

| disease | char(20) | YES | | NULL | |

| tests | char(20) | YES | | NULL | |

| phoneno | int(15) | YES | | NULL | |

+--------------+----------+------+-----+---------+-------+

5 rows in set (0.00 sec)

mysql> insert into patients values(12,'mahesh','fever','bloodtest',1445236982),(23,'teja','cough','bloodtest',475862),(54,'vinay','kidney\_failure','---',514

786);

Query OK, 3 rows affected (0.03 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> select \* from patients;

+------+--------------+----------------+-----------+------------+

| p\_id | patient\_name | disease | tests | phoneno |

+------+--------------+----------------+-----------+------------+

| 12 | mahesh | fever | bloodtest | 1445236982 |

| 23 | teja | cough | bloodtest | 475862 |

| 54 | vinay | kidney\_failure | --- | 514786 |

+------+--------------+----------------+-----------+------------+

3 rows in set (0.00 sec)

mysql> create table doctors(id int,name char,specialin char,phone int);

Query OK, 0 rows affected (0.09 sec)

mysql> desc doctors;

+-----------+---------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-----------+---------+------+-----+---------+-------+

| id | int(11) | YES | | NULL | |

| name | char(1) | YES | | NULL | |

| specialin | char(1) | YES | | NULL | |

| phone | int(11) | YES | | NULL | |

+-----------+---------+------+-----+---------+-------+

4 rows in set (0.00 sec)

mysql> alter table doctors add primary key(id);

Query OK, 0 rows affected (0.14 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc doctors;

+-----------+---------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-----------+---------+------+-----+---------+-------+

| id | int(11) | NO | PRI | 0 | |

| name | char(1) | YES | | NULL | |

| specialin | char(1) | YES | | NULL | |

| phone | int(11) | YES | | NULL | |

+-----------+---------+------+-----+---------+-------+

4 rows in set (0.01 sec)

mysql> insert into doctors values(34,'a','n',91821),(54,'e','d',54944),(27,'g','r',35464);

Query OK, 3 rows affected (0.05 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> select \* from doctors;

+----+------+-----------+-------+

| id | name | specialin | phone |

+----+------+-----------+-------+

| 27 | g | r | 35464 |

| 34 | a | n | 91821 |

| 54 | e | d | 54944 |

+----+------+-----------+-------+

3 rows in set (0.00 sec)

mysql> select id,name from doctors;

+----+------+

| id | name |

+----+------+

| 27 | g |

| 34 | a |

| 54 | e |

+----+------+

3 rows in set (0.00 sec)

mysql> select count(name)from doctors;

+-------------+

| count(name) |

+-------------+

| 3 |

+-------------+

1 row in set (0.00 sec)

mysql> select \* from patients

-> where disease='fever';

+------+--------------+---------+-----------+------------+

| p\_id | patient\_name | disease | tests | phoneno |

+------+--------------+---------+-----------+------------+

| 12 | mahesh | fever | bloodtest | 1445236982 |

+------+--------------+---------+-----------+------------+

1 row in set (0.00 sec)

mysql> select patient\_name,disease from patients;

+--------------+----------------+

| patient\_name | disease |

+--------------+----------------+

| mahesh | fever |

| teja | cough |

| vinay | kidney\_failure |

+--------------+----------------+

3 rows in set (0.00 sec)

mysql> select id,phone from doctors;

+----+-------+

| id | phone |

+----+-------+

| 27 | 35464 |

| 34 | 91821 |

| 54 | 54944 |

+----+-------+

3 rows in set (0.00 sec)

*24Q. Case Scenario SQL Queries Implementation for Car Rental Company*

mysql> desc car;

+-------------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------------+-------------+------+-----+---------+-------+

| car\_model | int(20) | YES | | NULL | |

| car\_name | varchar(20) | YES | | NULL | |

| car\_mileage | int(20) | YES | | NULL | |

+-------------+-------------+------+-----+---------+-------+

3 rows in set (0.17 sec)

mysql> alter table car add car\_rent int(20);

Query OK, 0 rows affected (2.03 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc car;

+-------------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------------+-------------+------+-----+---------+-------+

| car\_model | int(20) | YES | | NULL | |

| car\_name | varchar(20) | YES | | NULL | |

| car\_mileage | int(20) | YES | | NULL | |

| car\_rent | int(20) | YES | | NULL | |

+-------------+-------------+------+-----+---------+-------+

4 rows in set (0.01 sec)

mysql> insert into car values(2005,'Ford',20,1500),(2016,'Honda Fit',16,2000),(2021,'Shift',14,1200),(2008,'Tata',10,1000);

Query OK, 4 rows affected (0.06 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> select \* from car;

+-----------+-----------+-------------+----------+

| car\_model | car\_name | car\_mileage | car\_rent |

+-----------+-----------+-------------+----------+

| 2005 | Ford | 20 | 1500 |

| 2016 | Honda Fit | 16 | 2000 |

| 2021 | Shift | 14 | 1200 |

| 2008 | Tata | 10 | 1000 |

+-----------+-----------+-------------+----------+

4 rows in set (0.00 sec)

mysql> create table company(c\_name varchar(20),no\_of\_cars int(20),phone\_no int(20));

Query OK, 0 rows affected (0.14 sec)

mysql> desc company;

+------------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+------------+-------------+------+-----+---------+-------+

| c\_name | varchar(20) | YES | | NULL | |

| no\_of\_cars | int(20) | YES | | NULL | |

| phone\_no | int(20) | YES | | NULL | |

+------------+-------------+------+-----+---------+-------+

3 rows in set (0.01 sec)

mysql> insert into company values('SSR MOTORS',36,986743218),('TCR MOTORS',24,675432981),('BMW MOTORS',70,765439872);

Query OK, 3 rows affected (0.03 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> select \* from company;

+------------+------------+-----------+

| c\_name | no\_of\_cars | phone\_no |

+------------+------------+-----------+

| SSR MOTORS | 36 | 986743218 |

| TCR MOTORS | 24 | 675432981 |

| BMW MOTORS | 70 | 765439872 |

+------------+------------+-----------+

3 rows in set (0.00 sec)

mysql> delete from company where no\_of\_cars=24;

Query OK, 1 row affected (0.14 sec)

mysql> select \* from company;

+------------+------------+-----------+

| c\_name | no\_of\_cars | phone\_no |

+------------+------------+-----------+

| SSR MOTORS | 36 | 986743218 |

| BMW MOTORS | 70 | 765439872 |

+------------+------------+-----------+

2 rows in set (0.00 sec)

*25Q. Case Scenario SQL Queries Implementation for Student Progress Monitoring System*

mysql> create table student\_progress(std\_id int(10),std\_name varchar

-> (20),physics int(10),maths int(10),dbms int(10));

Query OK, 0 rows affected (0.07 sec)

mysql> desc student\_progress;

+----------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+----------+-------------+------+-----+---------+-------+

| std\_id | int(10) | YES | | NULL | |

| std\_name | varchar(20) | YES | | NULL | |

| physics | int(10) | YES | | NULL | |

| maths | int(10) | YES | | NULL | |

| dbms | int(10) | YES | | NULL | |

+----------+-------------+------+-----+---------+-------+

5 rows in set (0.01 sec)

mysql> alter table student\_progress add total int(10);

Query OK, 0 rows affected (0.16 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table student\_progress add grade char(2);

Query OK, 0 rows affected (0.20 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc student\_progress;

+----------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+----------+-------------+------+-----+---------+-------+

| std\_id | int(10) | YES | | NULL | |

| std\_name | varchar(20) | YES | | NULL | |

| physics | int(10) | YES | | NULL | |

| maths | int(10) | YES | | NULL | |

| dbms | int(10) | YES | | NULL | |

| total | int(10) | YES | | NULL | |

| grade | char(2) | YES | | NULL | |

+----------+-------------+------+-----+---------+-------+

7 rows in set (0.00 sec)

mysql> insert into student\_progress values(1,'sridhar',98,99,97,294,'S'),(3,'praneeth',87,95,74,256,'A'),(5,'Uday',74,65,80,219,'B'),(2,'Aravind',64,55,59,178,'D');

Query OK, 4 rows affected (0.05 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> select \* from student\_progress;

+--------+----------+---------+-------+------+-------+-------+

| std\_id | std\_name | physics | maths | dbms | total | grade |

+--------+----------+---------+-------+------+-------+-------+

| 1 | sridhar | 98 | 99 | 97 | 294 | S |

| 3 | praneeth | 87 | 95 | 74 | 256 | A |

| 5 | Uday | 74 | 65 | 80 | 219 | B |

| 2 | Aravind | 64 | 55 | 59 | 178 | D |

+--------+----------+---------+-------+------+-------+-------+

4 rows in set (0.00 sec)

mysql> select std\_id,total,

-> case

-> when total > 150 then 'the mark grade is greater than 150'

-> when total = 150 then 'the mark grade is 150'

-> else 'the mark grade is above 150'

-> end as totalgrade

-> from student\_progress;

+--------+-------+------------------------------------+

| std\_id | total | totalgrade |

+--------+-------+------------------------------------+

| 1 | 294 | the mark grade is greater than 150 |

| 3 | 256 | the mark grade is greater than 150 |

| 5 | 219 | the mark grade is greater than 150 |

| 2 | 178 | the mark grade is greater than 150 |

+--------+-------+------------------------------------+

4 rows in set (0.10 sec)