NATIONAL INSTITUTE OF TECHNOLOGY

KARNATAKA

DATABASE SYSTEM LAB

REPORT : 3

Name : Shivam Yadav

Roll No : 211CS257

Sec : S2

Code : CS254

1.

a) Create a table cust with following columns
i)custid as not null
ii)Name.

Query_a) CREATE TABLE cust(c_id INT,name V
ARCHAR(20));

Query_b) SELECT * FROM cust;

```
+------+-------+
| c_id | name  |
+------+-------+
|    1 | raman |
|    2 | aman  |
|    3 | kamal |
|    4 | vimal |
|    5 | rohan |
+------+-------+
```

Query1) Alter the table cust to add not null constraint to name.

```
mysql> alter table cust modify column name varchar(20) not null;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> desc cust;
+-------+-------------+------+-----+---------+-------+
| Field | Type        | Null | Key | Default | Extra |
+-------+-------------+------+-----+---------+-------+
| c_id  | int(11)     | NO   |     | NULL    |       |
| name  | varchar(20) | NO   |     | NULL    |       |
+-------+-------------+------+-----+---------+-------+
```

Query2) Alter the table cust to add unique constraint to custid.

```
mysql> alter table cust modify column c_id int unique;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc cust;
+-------+-------------+------+-----+---------+-------+
| Field | Type        | Null | Key | Default | Extra |
+-------+-------------+------+-----+---------+-------+
| c_id  | int(11)     | YES  | UNI | NULL    |       |
| name  | varchar(20) | NO   |     | NULL    |       |
+-------+-------------+------+-----+---------+-------+
```

b) Create table student with following columns
i)regno
ii)mark.
Where 0<=mark<=100.

Query_a) CREATE TABLE student(regno INT,mark INT);

Query_b) SELECT * FROM student;

```
+-------+------+
| regno | mark |
+-------+------+
|     1 |   45 |
|     2 |   87 |
|     3 |   90 |
|     4 |   80 |
|     5 |   85 |
+-------+------+
```

```
mysql> alter table student add constraint ch_r check(mark>=0 and mark<=100);
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

Query1) Alter the student table to add the constraint to check the length of regno is 4.

```
mysql> alter table student add constraint ch_l check(regno=4);
Query OK, 0 rows affected (0.00 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

c) Create a table called EMP with the following structure.
i)EMPNO NUMBER(6)
ii)ENAME VARCHAR2(20)
iii)JOB VARCHAR2(10)
iv)DEPTNO NUMBER(3)
v)SAL NUMBER(7,2)

Query_a) CREATE TABLE EMP(empno DEC(6),ename VARCHAR(20),job VARCHAR(20),deptno DEC(3),sal DEC(7,2));

Query_b) SELECT * FROM EMP;

```
mysql> select * from EMP;
+-------+--------+----------+--------+----------+
| empno | ename  | job      | deptno | sal      |
+-------+--------+----------+--------+----------+
|  1101 | David  | mechanic |    401 | 45000.00 |
|  1104 | Merlin | joker    |    404 | 25000.00 |
|  1103 | Ravin  | driver   |    403 | 30000.00 |
|  1105 | Rio    | robber   |    405 | 99999.00 |
|  1102 | Sam    | singer   |    402 | 65000.00 |
+-------+--------+----------+--------+----------+
```

Query1) Allow NULL for all columns except ename and job.

```
mysql> alter table EMP add primary key(ename,job);
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc EMP;
+--------+--------------+------+-----+---------+-------+
| Field  | Type         | Null | Key | Default | Extra |
+--------+--------------+------+-----+---------+-------+
| empno  | decimal(6,0) | YES  |     | NULL    |       |
| ename  | varchar(20)  | NO   | PRI | NULL    |       |
| job    | varchar(10)  | NO   | PRI | NULL    |       |
| deptno | decimal(3,0) | YES  |     | NULL    |       |
| sal    | decimal(7,2) | YES  |     | NULL    |       |
+--------+--------------+------+-----+---------+-------+
```

Query2) Add a column experience to the emp table. experience numeric null allowed.

```
mysql> alter table EMP add experience int;
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc EMP;
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| empno      | decimal(6,0) | YES  |     | NULL    |       |
| ename      | varchar(20)  | NO   | PRI | NULL    |       |
| job        | varchar(10)  | NO   | PRI | NULL    |       |
| deptno     | decimal(3,0) | YES  |     | NULL    |       |
| sal        | decimal(7,2) | YES  |     | NULL    |       |
| experience | int(11)      | YES  |     | NULL    |       |
+------------+--------------+------+-----+---------+-------+
```

SELECT * FROM EMP;

empno	ename	job	deptno	sal	experience
1101	David	mechanic	401	45000.00	4
1104	Merlin	joker	404	25000.00	9
1103	Ravin	driver	403	30000.00	8
1105	Rio	robber	405	99999.00	10
1102	Sam	singer	402	65000.00	6

Query3) Modify the column width of the job field of emp table.

```
mysql> alter table EMP modify column job varchar(20);
Query OK, 0 rows affected (0.00 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc EMP;
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| empno      | decimal(6,0) | YES  |     | NULL    |       |
| ename      | varchar(20)  | NO   | PRI | NULL    |       |
| job        | varchar(20)  | NO   | PRI | NULL    |       |
| deptno     | decimal(3,0) | YES  |     | NULL    |       |
| sal        | decimal(7,2) | YES  |     | NULL    |       |
| experience | int(11)      | YES  |     | NULL    |       |
+------------+--------------+------+-----+---------+-------+
```

2.

a) Create a table Products with following columns
i)ProductID
ii)ProductName,
iii)SupplierID,
iv)tegoryID,
v)Unit Price.
Assume appropriate data types

Query_a) CREATE TABLE Product(ProductID I
NT,ProductName VARCHAR(20),SupplierID
INT,CategoryID INT,Price INT);

Query_b) SELECT * FROM Product;

```
+-----------+--------------------+------------+------------+-------+
| ProductID | ProductName        | SupplierID | CategoryID | Price |
+-----------+--------------------+------------+------------+-------+
|         1 | Banana             |        101 |        601 |   105 |
|         2 | Ball pen           |        102 |        602 |    10 |
|         3 | Notebook           |        103 |        603 |    18 |
|         4 | glucose            |        104 |        604 |    45 |
|         5 | facewash           |        105 |        605 |    53 |
|         6 | 2 egg Parotha      |        106 |        606 |    55 |
|         7 | dell keboard combo |        107 |        607 |  1405 |
|         8 | Apple              |        108 |        608 |    85 |
|         9 | Amul coldrink      |        109 |        609 |    30 |
|        10 | lays               |        110 |        610 |    40 |
+-----------+--------------------+------------+------------+-------+
10 rows in set (0.00 sec)
```

b) Create a table Customers with following columns
i)CustomerID,
ii)CustomerName,
iii)ContactName,
iv)Address,
v)City,
vi)PostalCode,
vii)Country.

Query_a) CREATE TABLE Customers(CustomerID INT,CustomerName VARCHAR(20),Contact VARCHAR(10),Address VARCHAR(20),City VARCHAR(15),PostalCode INT,Country VARCHAR(15));

Query_b) SELECT * FROM Customers;

CustomerID	CustomerName	Contact	Address	City	PostalCode	Country
1	Aman	6308975643	Dhilawal	Mumbai	806521	India
2	Vipin	7896453908	Kohlapur	Pune	603621	India
3	Raghav	6387970643	Farrukhabad	Fatehgarh	209601	India
4	Rohit	9998960545	Cristopher Street	London	2065	UK
5	Sam	9998945545	Columbus401	London	2001	UK
6	Rajeev	6307879765	Kimmley z801	Paris	7809	France
7	Amit	9897043102	asphlt 301	San Francisco	2805	NYC
8	Aryan	8808760071	Gilbert neo	San Francisco	2809	NYC
9	Arhan	8906756041	saga street	Merlin	5608	UK
10	Pradeep	9897960543	albus301	perl	6704	UK

Query1) Increase the Price of all products by 5 and display it as ‘Price+5’ in Products table.

Note : Original Price is not changed at all this Price + 5 is temporary

```
mysql> select *,Price + 5 as 'Price + 5'
    -> from Product;
+-----------+--------------------+------------+------------+-------+-----------+
| ProductID | ProductName        | SupplierID | CategoryID | Price | Price + 5 |
+-----------+--------------------+------------+------------+-------+-----------+
|         1 | Banana             |        101 |        601 |   105 |       110 |
|         2 | Ball pen           |        102 |        602 |    10 |        15 |
|         3 | Notebook           |        103 |        603 |    18 |        23 |
|         4 | glucose            |        104 |        604 |    45 |        50 |
|         5 | facewash           |        105 |        605 |    53 |        58 |
|         6 | 2 egg Parotha      |        106 |        606 |    55 |        60 |
|         7 | dell keboard combo |        107 |        607 |  1405 |      1410 |
|         8 | Apple              |        108 |        608 |    85 |        90 |
|         9 | Amul coldrink      |        109 |        609 |    30 |        35 |
|        10 | lays               |        110 |        610 |    40 |        45 |
+-----------+--------------------+------------+------------+-------+-----------+
10 rows in set (0.01 sec)
```

Query2) List all the items from Products whose Price=18.

```
mysql> select * from Product where Price=18;
+-----------+-------------+------------+------------+-------+
| ProductID | ProductName | SupplierID | CategoryID | Price |
+-----------+-------------+------------+------------+-------+
|         3 | Notebook    |        103 |        603 |    18 |
+-----------+-------------+------------+------------+-------+
```

Query3) List all the items from Products whose Price is more than 30.

```
mysql> select * from Product where Price>30;
+-----------+--------------------+------------+------------+-------+
| ProductID | ProductName        | SupplierID | CategoryID | Price |
+-----------+--------------------+------------+------------+-------+
|         1 | Banana             |        101 |        601 |   105 |
|         4 | glucose            |        104 |        604 |    45 |
|         5 | facewash           |        105 |        605 |    53 |
|         6 | 2 egg Parotha      |        106 |        606 |    55 |
|         7 | dell keboard combo |        107 |        607 |  1405 |
|         8 | Apple              |        108 |        608 |    85 |
|        10 | lays               |        110 |        610 |    40 |
+-----------+--------------------+------------+------------+-------+
```

Query4) List all the items from Products whose Price is not equal to 18.

```
mysql> select * from Product where Price<>18;
+-----------+--------------------+------------+------------+-------+
| ProductID | ProductName        | SupplierID | CategoryID | Price |
+-----------+--------------------+------------+------------+-------+
|         1 | Banana             |        101 |        601 |   105 |
|         2 | Ball pen           |        102 |        602 |    10 |
|         4 | glucose            |        104 |        604 |    45 |
|         5 | facewash           |        105 |        605 |    53 |
|         6 | 2 egg Parotha      |        106 |        606 |    55 |
|         7 | dell keboard combo |        107 |        607 |  1405 |
|         8 | Apple              |        108 |        608 |    85 |
|         9 | Amul coldrink      |        109 |        609 |    30 |
|        10 | lays               |        110 |        610 |    40 |
+-----------+--------------------+------------+------------+-------+
```

Query5) List all the items from Products whose Price is between 50 and 60.

```
mysql> select * from Product where Price between 50 and 60;
+-----------+---------------+------------+------------+-------+
| ProductID | ProductName   | SupplierID | CategoryID | Price |
+-----------+---------------+------------+------------+-------+
|         5 | facewash      |        105 |        605 |    53 |
|         6 | 2 egg Parotha |        106 |        606 |    55 |
+-----------+---------------+------------+------------+-------+
```

Query6) List the customer details from Customers whose City is London and Country is UK.

```
mysql> select* from Customers where City='London' and Country='UK';
+------------+--------------+------------+-------------------+--------+------------+---------+
| CustomerID | CustomerName | Contact    | Address           | City   | PostalCode | Country |
+------------+--------------+------------+-------------------+--------+------------+---------+
|          4 | Rohit        | 9998960545 | Cristopher Street | London |       2065 | UK      |
|          5 | Sam          | 9998945545 | Columbus401       | London |       2001 | UK      |
+------------+--------------+------------+-------------------+--------+------------+---------+
```

Query7) List the customer details from Customers whose City is London or Country is UK.

```
mysql> select * from Customers where City='London' or Country='UK';
+------------+--------------+------------+-------------------+--------+------------+---------+
| CustomerID | CustomerName | Contact    | Address           | City   | PostalCode | Country |
+------------+--------------+------------+-------------------+--------+------------+---------+
|          4 | Rohit        | 9998960545 | Cristopher Street | London |       2065 | UK      |
|          5 | Sam          | 9998945545 | Columbus401       | London |       2001 | UK      |
|          9 | Arhan        | 8906756041 | saga street       | Merlin |       5608 | UK      |
|         10 | Pradeep      | 9897960543 | albus301          | perl   |       6704 | UK      |
+------------+--------------+------------+-------------------+--------+------------+---------+
```

Query8) List the customer details from Customers whose City matches with the list of
cities among Paris, London, San Francisco.

```
mysql> select* from Customers where City in ('Paris','London','San Francisco');
+------------+--------------+------------+-------------------+---------------+------------+---------+
| CustomerID | CustomerName | Contact    | Address           | City          | PostalCode | Country |
+------------+--------------+------------+-------------------+---------------+------------+---------+
|          4 | Rohit        | 9998960545 | Cristopher Street | London        |       2065 | UK      |
|          5 | Sam          | 9998945545 | Columbus401       | London        |       2001 | UK      |
|          6 | Rajeev       | 6307879765 | Kimmley z801      | Paris         |       7809 | France  |
|          7 | Amit         | 9897043102 | asphlt 301        | San Francisco |       2805 | NYC     |
|          8 | Aryan        | 8808760071 | Gilbert neo       | San Francisco |       2809 | NYC     |
+------------+--------------+------------+-------------------+---------------+------------+---------+
```