LAB-2: Perform the following DB operations using Cassandra.

1. Create a key space by name Employee

```
cqlsh> create keyspace Employee WITH replication={'class':'SimpleStrategy','replication_factor':1};
cqlsh> describe keyspaces;

"Studentsss"  system_schema  system              employee
students      system_auth    system_distributed  system_traces

cqlsh> use employee;
```

2. Create a column family by name Employee-Info with attributes Emp_Id Primary Key, Emp_Name, Designation, Date_of_Joining, Salary, Dept_Name

```
cqlsh:employee> describe tables;

<empty>

cqlsh:employee> CREATE TABLE employee_info (
           ... emp_id int
           ... dept_name text,
           ... designation text,
           ... emp_name text,
           ... salary double,
           ... date_of_joining timestamp,
           ... primary key(emp_id,salary));
SyntaxException: line 3:0 no viable alternative at input 'dept_name' (CREATE TABLE employee_info (emp_id [int]dept_name...)
cqlsh:employee> CREATE TABLE employee_info (
           ... emp_id int,
           ... dept_name text,
           ... salary double,
           ... date_of_joining timestamp,
           ... emp_name text,
           ... designation text,
           ... primary key(emp_id,salary));
cqlsh:employee> select * from employee_info;

 emp_id | salary | date_of_joining | dept_name | designation | emp_name
--------+--------+-----------------+-----------+-------------+----------

(0 rows)
```

3. Insert the values into the table in batch

```
cqlsh:employee> BEGIN BATCH
           ... INSERT INTO Employee_Info(Emp_id, Emp_Name, Designation, Date_Of_Joining, salary, Dept_name)
           ... VALUES (120,'Asha','Manager','2021-04-01',30000.0,'CSE')
           ... INSERT INTO Employee_Info(Emp_id, Emp_Name, Designation, Date_Of_Joining, salary, Dept_name)
           ... VALUES (121,'Kiran','Emp','2019-04-20',20000.0,'CSE')
           ... INSERT INTO Employee_Info(Emp_id, Emp_Name, Designation, Date_Of_Joining, salary, Dept_name)
           ... VALUES (123,'Samarth','Emp','2020-08-01',22500.0,'CSE')
           ... APPLY BATCH;
cqlsh:employee> select * from employee_info;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name
--------+--------+---------------------------------+-----------+-------------+----------
    120 |  30000 | 2021-03-31 18:30:00.000000+0000 |       CSE |     Manager |     Asha
    123 |  22500 | 2020-07-31 18:30:00.000000+0000 |       CSE |         Emp |  Samarth
    121 |  20000 | 2019-04-19 18:30:00.000000+0000 |       CSE |         Emp |    Kiran

(3 rows)
```

4. Sort the details of Employee records based on salary

```
cqlsh:employee> paging off;
Disabled Query paging.
cqlsh:employee> select * from employee_info where emp_id in(120,121,123) order by salary;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name
--------+--------+---------------------------------+-----------+-------------+----------
    121 |  20000 | 2019-04-19 18:30:00.000000+0000 |       CSE |         Emp |    Kiran
    123 |  22500 | 2020-07-31 18:30:00.000000+0000 |       CSE |         Emp |  Samarth
    120 |  30000 | 2021-03-31 18:30:00.000000+0000 |       CSE |     Manager |     Asha

(3 rows)
cqlsh:employee> update employee_info set emp_name='david',dept_name='ECE' where emp_id=121 and salary=20000;
cqlsh:employee> select * from employee_info ;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name
--------+--------+---------------------------------+-----------+-------------+----------
    120 |  30000 | 2021-03-31 18:30:00.000000+0000 |       CSE |     Manager |     Asha
    123 |  22500 | 2020-07-31 18:30:00.000000+0000 |       CSE |         Emp |  Samarth
    121 |  20000 | 2019-04-19 18:30:00.000000+0000 |       ECE |         Emp |    david

(3 rows)
```

5. Update Employee name and Department of Emp-Id 121

```
cqlsh:employee> update employee_info set emp_name='david',dept_name='ECE' where emp_id=121 and salary=20000;
cqlsh:employee> select * from employee_info ;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name
--------+--------+---------------------------------+-----------+-------------+----------
    120 |  30000 | 2021-03-31 18:30:00.000000+0000 |       CSE |     Manager |     Asha
    123 |  22500 | 2020-07-31 18:30:00.000000+0000 |       CSE |         Emp |  Samarth
    121 |  20000 | 2019-04-19 18:30:00.000000+0000 |       ECE |         Emp |    david

(3 rows)
```

6. Alter the schema of the table Employee_Info to add a column Projects which stores a set of Projects done by the corresponding Employee.

```
cqlsh:employee> alter table employee_info add projects set<text>;
cqlsh:employee> select * from employee_info ;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name | projects
--------+--------+---------------------------------+-----------+-------------+----------+----------
    120 |  30000 | 2021-03-31 18:30:00.000000+0000 |       CSE |     Manager |     Asha |     null
    123 |  22500 | 2020-07-31 18:30:00.000000+0000 |       CSE |         Emp |  Samarth |     null
    121 |  20000 | 2019-04-19 18:30:00.000000+0000 |       ECE |         Emp |    david |     null

(3 rows)
```

7. Update the altered table to add project names.

```
cqlsh:employee> update employee_info set projects=projects+{'A','B'} where emp_id=121 and salary=20000;
cqlsh:employee> select * from employee_info ;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name | projects
--------+--------+---------------------------------+-----------+-------------+----------+------------
    120 |  30000 | 2021-03-31 18:30:00.000000+0000 |       CSE |     Manager |     Asha |       null
    123 |  22500 | 2020-07-31 18:30:00.000000+0000 |       CSE |         Emp |  Samarth |       null
    121 |  20000 | 2019-04-19 18:30:00.000000+0000 |       ECE |         Emp |    david | {'A', 'B'}

(3 rows)
cqlsh:employee> update employee_info set projects={'C'} where emp_id=123 and salary=22500;
cqlsh:employee> select * from employee_info ;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name | projects
--------+--------+---------------------------------+-----------+-------------+----------+------------
    120 |  30000 | 2021-03-31 18:30:00.000000+0000 |       CSE |     Manager |     Asha |       null
    123 |  22500 | 2020-07-31 18:30:00.000000+0000 |       CSE |         Emp |  Samarth |      {'C'}
    121 |  20000 | 2019-04-19 18:30:00.000000+0000 |       ECE |         Emp |    david | {'A', 'B'}

(3 rows)
cqlsh:employee> update employee_info set projects=projects+{'D'} where emp_id=120 and salary=30000;
cqlsh:employee> select * from employee_info ;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name | projects
--------+--------+---------------------------------+-----------+-------------+----------+------------
    120 |  30000 | 2021-03-31 18:30:00.000000+0000 |       CSE |     Manager |     Asha |      {'D'}
    123 |  22500 | 2020-07-31 18:30:00.000000+0000 |       CSE |         Emp |  Samarth |      {'C'}
    121 |  20000 | 2019-04-19 18:30:00.000000+0000 |       ECE |         Emp |    david | {'A', 'B'}

(3 rows)
```

8. Create a TTL of 15 seconds to display the values of Employees.

```
cqlsh:employee> INSERT INTO Employee_Info(Emp_id, Emp_Name, Designation, Date_Of_Joining, salary, Dept_name)
           ... VALUES (125,'george','Emp','2021-03-08',35000.0,'ISE')
           ... using ttl 15;
cqlsh:employee> select * from employee_info ;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name | projects
--------+--------+---------------------------------+-----------+-------------+----------+------------
    120 |  30000 | 2021-03-31 18:30:00.000000+0000 |       CSE |     Manager |     Asha |      {'D'}
    123 |  22500 | 2020-07-31 18:30:00.000000+0000 |       CSE |         Emp |  Samarth |      {'C'}
    125 |  35000 | 2021-03-07 18:30:00.000000+0000 |       ISE |         Emp |   george |       null
    121 |  20000 | 2019-04-19 18:30:00.000000+0000 |       ECE |         Emp |    david | {'A', 'B'}

(4 rows)
cqlsh:employee> select * from employee_info ;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name | projects
--------+--------+---------------------------------+-----------+-------------+----------+------------
    120 |  30000 | 2021-03-31 18:30:00.000000+0000 |       CSE |     Manager |     Asha |      {'D'}
    123 |  22500 | 2020-07-31 18:30:00.000000+0000 |       CSE |         Emp |  Samarth |      {'C'}
    121 |  20000 | 2019-04-19 18:30:00.000000+0000 |       ECE |         Emp |    david | {'A', 'B'}

(3 rows)
```