Nikhil S N
6B
bda lab
cassandra
Program 1. Perform the following DB operations using Cassandra.

1. Create a key space by name Employee.

```
cqlsh> CREATE KEYSPACE rcb WITH replication={'class':'SimpleStrategy','replication_factor':1};
cqlsh> describe keyspace
Not in any keyspace.
cqlsh> describe rcb
```

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> create table rcb.employee_Info(emp_id int primary key,emp_name text,designation text,date_of_joining timestamp,salary double,dept_name text);
cqlsh> select * from rcb.employee_info;

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

3. Insert the values into the table in batch.

```
cqlsh> begin batch insert into rcb.employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)values(1,'nitish','manager','2021-06-03',1500000,'software');apply batch;
cqlsh> select * from rcb.employee_info;

 emp_id | date_of_joining                 | dept_name | designation | emp_name | salary
--------+---------------------------------+-----------+-------------+----------+--------
      1 | 2021-06-02 18:30:00.000000+0000 |  software |     manager |   nitish | 1.5e+06
```

```
cqlsh> begin batch
   ... begin batch insert into rcb.employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)values(2,'tarun','team leader','2021-05-07',1500078,'testing');
   ... begin batch insert into rcb.employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)values(3,'prem','memes','2022-06-02',1500089,'dataanalyse');
   ... apply batch;
SyntaxException: line 2:0 mismatched input 'begin' expecting K_APPLY (begin batch[begin]...)
cqlsh> begin batch
   ... insert into rcb.employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)values(2,'tarun','team leader','2021-05-07',1500078,'testing');
   ... insert into rcb.employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)values(3,'prem','memes','2022-06-09',1500458,'tracing');
   ... apply batch;
cqlsh> select * from rcb.employee_info;

 emp_id | date_of_joining                 | dept_name | designation | emp_name | salary
--------+---------------------------------+-----------+-------------+----------+-----------
      1 | 2021-06-02 18:30:00.000000+0000 |  software |     manager |   nitish |    1.5e+06
      2 | 2021-05-06 18:30:00.000000+0000 |   testing | team leader |    tarun | 1.5001e+06
      3 | 2022-06-08 18:30:00.000000+0000 |   tracing |       memes |     prem | 1.5005e+06
```

4. Update Employee name and Department of Emp-Id 2.

```
cqlsh> update rcb.employee_info SET emp_name='rama',dept_name='buisness' where emp_id=2;
cqlsh> select * from rcb.employee_info;

 emp_id | date_of_joining                 | dept_name | designation | emp_name | salary
--------+---------------------------------+-----------+-------------+----------+------------
      1 | 2021-06-02 18:30:00.000000+0000 |  software |     manager |   nitish |    1.5e+06
      2 | 2021-05-06 18:30:00.000000+0000 |  buisness | team leader |     rama | 1.5001e+06
      3 | 2022-06-08 18:30:00.000000+0000 |   tracing |       memes |     prem | 1.5005e+06

(3 rows)
```

5. Sort the details of Employee records based on salary.

```
cqlsh> create table rcb.employee(emp_id int,emp_name text,designation text,date_of_joining timestamp,salary double,dept_name text,primary key(emp_id,salary));
cqlsh> begin batch insert into rcb.employee(emp_id,emp_name,designation,date_of_joining,salary,dept_name)values(2,'tarun','team leader','2021-05-07',1500,'testing'); insert into rcb.employee_info(emp_id,e
mp_name,designation,date_of_joining,salary,dept_name)values(3,'prem','memes','2022-06-09',150,'tracing'); apply batch;
cqlsh> select * from rcb.employee;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name
--------+--------+---------------------------------+-----------+-------------+----------
      2 |   1500 | 2021-05-06 18:30:00.000000+0000 |   testing | team leader |    tarun

(1 rows)
cqlsh> begin batch
   ... insert into rcb.employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)values(1,'nitish','hr','2021-05-07',15000,'software');
   ... insert into rcb.employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)values(3,'prem','leader','2021-05-07',113,'memes');
   ... apply batch;
cqlsh> select * from rcb.employee;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name
--------+--------+---------------------------------+-----------+-------------+----------
      2 |   1500 | 2021-05-06 18:30:00.000000+0000 |   testing | team leader |    tarun

(1 rows)
cqlsh> begin batch
   ... insert into rcb.employee(emp_id,emp_name,designation,date_of_joining,salary,dept_name)values(1,'nitish','hr','2021-05-07',15000,'software'); insert into rcb.employee(emp_id,emp_name,designation,dat
e_of_joining,salary,dept_name)values(3,'prem','leader','2021-05-07',113,'memes'); apply batch;
cqlsh> select * from rcb.employee;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name
--------+--------+---------------------------------+-----------+-------------+----------
      1 |  15000 | 2021-05-06 18:30:00.000000+0000 |  software |          hr |   nitish
      2 |   1500 | 2021-05-06 18:30:00.000000+0000 |   testing | team leader |    tarun
      3 |    113 | 2021-05-06 18:30:00.000000+0000 |     memes |      leader |     prem
```

```
cqlsh> paging off;
Query paging is not enabled.
cqlsh> select * from rcb.employee where emp_id in (1,2,3) order by salary;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name
--------+--------+---------------------------------+-----------+-------------+----------
      3 |    113 | 2021-05-06 18:30:00.000000+0000 |     memes |      leader |     prem
      2 |   1500 | 2021-05-06 18:30:00.000000+0000 |   testing | team leader |    tarun
      1 |  15000 | 2021-05-06 18:30:00.000000+0000 |  software |          hr |   nitish
```

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> alter table rcb.employee add projects set<text>;
cqlsh> select * from rcb.employee;

 CodeLite salary | date_of_joining                 | dept_name | designation | emp_name | projects
---------+--------+---------------------------------+-----------+-------------+----------+----------
       1 |  15000 | 2021-05-06 18:30:00.000000+0000 |  software |          hr |   nitish |     null
       2 |   1500 | 2021-05-06 18:30:00.000000+0000 |   testing | team leader |    tarun |     null
       3 |    113 | 2021-05-06 18:30:00.000000+0000 |     memes |      leader |     prem |     null

(3 rows)
```

7. Update the altered table to add project names.

```
cqlsh> update rcb.employee SET projects=projects+{'abc','xyz'} where emp_id=1 and salary=15000;
cqlsh> select * from rcb.employee;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name | projects
--------+--------+---------------------------------+-----------+-------------+----------+---------------
      1 |  15000 | 2021-05-06 18:30:00.000000+0000 |  software |          hr |   nitish | {'abc', 'xyz'}
      2 |   1500 | 2021-05-06 18:30:00.000000+0000 |   testing | team leader |    tarun |           null
      3 |    113 | 2021-05-06 18:30:00.000000+0000 |     memes |      leader |     prem |           null

(3 rows)
cqlsh> update rcb.employee SET projects=projects+{'pqr','imn'} where emp_id=2 and salary=1500;
cqlsh> update rcb.employee SET projects=projects+{'tuv','def'} where emp_id=2 and salary=1500;
cqlsh> select * from rcb.employee;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name | projects
--------+--------+---------------------------------+-----------+-------------+----------+----------------------------
      1 |  15000 | 2021-05-06 18:30:00.000000+0000 |  software |          hr |   nitish |              {'abc', 'xyz'}
      2 |   1500 | 2021-05-06 18:30:00.000000+0000 |   testing | team leader |    tarun | {'def', 'imn', 'pqr', 'tuv'}
      3 |    113 | 2021-05-06 18:30:00.000000+0000 |     memes |      leader |     prem |                         null

(3 rows)
cqlsh> update rcb.employee SET projects=projects+{'lab','jkl'} where emp_id=3 and salary=113;
cqlsh> select * from rcb.employee;

 emp_id | salary | date_of_joining                 | dept_name | designation | emp_name | projects
--------+--------+---------------------------------+-----------+-------------+----------+----------------------------
      1 |  15000 | 2021-05-06 18:30:00.000000+0000 |  software |          hr |   nitish |              {'abc', 'xyz'}
      2 |   1500 | 2021-05-06 18:30:00.000000+0000 |   testing | team leader |    tarun | {'def', 'imn', 'pqr', 'tuv'}
      3 |    113 | 2021-05-06 18:30:00.000000+0000 |     memes |      leader |     prem |              {'jkl', 'lab'}

(3 rows)
```

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

```
cqlsh> insert into rcb.employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)values(11,'sharukh','r&d','2019-05-07',1000000,'intern') using TTL 15;
cqlsh> select * from rcb.employee_info;

 emp_id | date_of_joining                 | dept_name | designation | emp_name | salary
--------+---------------------------------+-----------+-------------+----------+-----------
     11 | 2019-05-06 18:30:00.000000+0000 |    intern |         r&d |  sharukh |      1e+06
      1 | 2021-05-06 18:30:00.000000+0000 |  software |          hr |   nitish |     15000
      2 | 2021-05-06 18:30:00.000000+0000 |  buisness | team leader |     rama | 1.5001e+06
      3 | 2021-05-06 18:30:00.000000+0000 |     memes |      leader |     prem |       113

(4 rows)
cqlsh> select * from rcb.employee_info;

 emp_id | date_of_joining                 | dept_name | designation | emp_name | salary
--------+---------------------------------+-----------+-------------+----------+-----------
      1 | 2021-05-06 18:30:00.000000+0000 |  software |          hr |   nitish |     15000
      2 | 2021-05-06 18:30:00.000000+0000 |  buisness | team leader |     rama | 1.5001e+06
      3 | 2021-05-06 18:30:00.000000+0000 |     memes |      leader |     prem |       113

(3 rows)
```