BDA LAB 3

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1BM19CS104

B3

Program 1. Perform the following DB operations using Cassandra.

1. Create a key space by name Employee

```
bmsce@bmsce-Precision-T1700:~$ cqlsh
Connected to Test Cluster at 127.0.0.1:9042.
[cqlsh 5.0.1 | Cassandra 3.11.5 | CQL spec 3.4.4 | Native protocol v4]
Use HELP for help.
cqlsh> create keyspace emp with replication={ 'class':'SimpleStrategy','replication_factor':1};
cqlsh> use emp;
```

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

```
CREATE TABLE EMPLOYEE_INFO(Emp_Id int PRIMARY KEY,Emp_Name text,Designation text,Date_of_joining timestamp,salary int,Dept_name text);
```

3. Insert the values into the table in batch

```
cqlsh:emp> BEGIN BATCH
    ... insert into EMPLOYEE_INFO(Emp_Id,Emp_Name,Designation,Date_of_joining,salary,Dept_name)values(456,'NAGRAJ','SDE','2020-09-05',95000,'IT');
    ... insert into EMPLOYEE_INFO(Emp_Id,Emp_Name,Designation,Date_of_joining,salary,Dept_name)values(600,'MAX','Assistant_Manager','2021-05-25',45000,'Sales');
    ... insert into EMPLOYEE_INFO(Emp_Id,Emp_Name,Designation,Date_of_joining,salary,Dept_name)values(123,'John','Manager','2020-05-25',65000,'Sales');
    ... APPLY BATCH;
cqlsh:emp> SELECT * FROM EMPLOYEE_INFO;
```

emp_id	date_of_joining	dept_name	designation	emp_name	salary
123	2020-05-24 18:30:00.000000+0000	Sales	Manager	John	65000
456	2020-09-04 18:30:00.000000+0000	IT	SDE	NAGRAJ	95000
600	2021-05-24 18:30:00.000000+0000	Sales	Assistant_Manager	MAX	45000

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

```
cqlsh:emp> UPDATE EMPLOYEE_INFO SET Emp_Name='AMIT',Dept_name='IT' where Emp_Id=123;
cqlsh:emp> SELECT * FROM EMPLOYEE_INFO;
```

emp_id	date_of_joining	dept_name	designation	emp_name	salary
123	2020-05-24 18:30:00.000000+0000	IT	Manager	AMIT	65000
456	2020-09-04 18:30:00.000000+0000	IT	SDE	NAGRAJ	95000
600	2021-05-24 18:30:00.000000+0000	Sales	Assistant_Manager	MAX	45000

```
(3 rows)
```

5. Sort the details of Employee records based on salary

```
cqlsh:emp> BEGIN BATCH
       ... INSERT INTO EMP(id,salary,name) VALUES (1,100000,'bob');
       ... INSERT INTO EMP(id,salary,name) VALUES (2,150000,'tom');
       ... INSERT INTO EMP(id,salary,name) VALUES (3,250000,'jerry');
       ... INSERT INTO EMP(id,salary,name) VALUES (4,250600,'jonas');
       ... INSERT INTO EMP(id,salary,name) VALUES (5,250600,'chad');
       ... APPLY BATCH;
cqlsh:emp> SELECT * FROM EMP;

 id | salary | name
----+--------+-------
  5 | 250600 |   chad
  1 | 100000 |    bob
  2 | 150000 |    tom
  4 | 250600 |  jonas
  3 | 250000 |  jerry

(5 rows)
cqlsh:emp> PAGING OFF;
Disabled Query paging.
cqlsh:emp> SELECT * FROM EMP WHERE ID IN (1,2,3,4,5) ORDER BY SALARY;

 id | salary | name
----+--------+-------
  1 | 100000 |    bob
  2 | 150000 |    tom
  3 | 250000 |  jerry
  4 | 250600 |  jonas
  5 | 250600 |   chad

(5 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:emp> ALTER TABLE EMPLOYEE_INFO ADD PROJECT SET<TEXT>;
cqlsh:emp> SELECT * FROM EMPLOYEE_INFO;

 emp_id | date_of_joining                   | dept_name | designation       | emp_name | project | salary
--------+-----------------------------------+-----------+-------------------+----------+---------+--------
    123 | 2020-05-24 18:30:00.000000+0000 |        IT |           Manager |     AMIT |    null |  65000
    456 | 2020-09-04 18:30:00.000000+0000 |        IT |               SDE |   NAGRAJ |    null |  95000
    600 | 2021-05-24 18:30:00.000000+0000 |     Sales | Assistant_Manager |      MAX |    null |  45000

(3 rows)
```

7. Update the altered table to add project names.

```
cqlsh:emp> BEGIN BATCH
       ... UPDATE EMPLOYEE_INFO SET PROJECT=PROJECT+{'FLUTTER_APP'} WHERE EMP_ID=456;
       ... UPDATE EMPLOYEE_INFO SET PROJECT=PROJECT+{'BOAT'} WHERE EMP_ID=123;
       ... UPDATE EMPLOYEE_INFO SET PROJECT=PROJECT+{'ACCOUNTING'} WHERE EMP_ID=789;
       ... APPLY BATCH;
cqlsh:emp> SELECT * FROM EMPLOYEE_INFO;

 emp_id | date_of_joining                  | dept_name | designation       | emp_name | project          | salary
--------+----------------------------------+-----------+-------------------+----------+------------------+--------
    123 | 2020-05-24 18:30:00.000000+0000  |        IT |           Manager |    AMIT  |         {'BOAT'} |  65000
    456 | 2020-09-04 18:30:00.000000+0000  |        IT |               SDE |   NAGRAJ | {'FLUTTER_APP'}  |  95000
    600 | 2021-05-24 18:30:00.000000+0000  |     Sales | Assistant_Manager |     MAX  |             null |  45000
    789 |                            null  |      null |              null |     null |   {'ACCOUNTING'} |   null

(4 rows)
cqlsh:emp> DELETE FROM EMPLOYEE_INFO WHERE emp_id=789;
cqlsh:emp> SELECT * FROM EMPLOYEE_INFO;

 emp_id | date_of_joining                  | dept_name | designation       | emp_name | project          | salary
--------+----------------------------------+-----------+-------------------+----------+------------------+--------
    123 | 2020-05-24 18:30:00.000000+0000  |        IT |           Manager |    AMIT  |         {'BOAT'} |  65000
    456 | 2020-09-04 18:30:00.000000+0000  |        IT |               SDE |   NAGRAJ | {'FLUTTER_APP'}  |  95000
    600 | 2021-05-24 18:30:00.000000+0000  |     Sales | Assistant_Manager |     MAX  |             null |  45000

(3 rows)
cqlsh:emp> BEGIN BATCH
       ...
cqlsh:emp> UPDATE EMPLOYEE_INFO SET PROJECT=PROJECT+{'ACCOUNTING'} WHERE EMP_ID=789;
cqlsh:emp> UPDATE EMPLOYEE_INFO SET PROJECT=PROJECT+{'ACCOUNTING'} WHERE EMP_ID=600;
cqlsh:emp> DELETE FROM EMPLOYEE_INFO WHERE emp_id=789;
cqlsh:emp> SELECT * FROM EMPLOYEE_INFO;

 emp_id | date_of_joining                  | dept_name | designation       | emp_name | project          | salary
--------+----------------------------------+-----------+-------------------+----------+------------------+--------
    123 | 2020-05-24 18:30:00.000000+0000  |        IT |           Manager |    AMIT  |         {'BOAT'} |  65000
    456 | 2020-09-04 18:30:00.000000+0000  |        IT |               SDE |   NAGRAJ | {'FLUTTER_APP'}  |  95000
    600 | 2021-05-24 18:30:00.000000+0000  |     Sales | Assistant_Manager |     MAX  |   {'ACCOUNTING'} |  45000

(3 rows)
```

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

```
cqlsh:emp> insert into EMPLOYEE_INFO(Emp_Id,Emp_Name,Designation,Date_of_joining,salary,Dept_name)values(001,'SASS','Assistent_SDE','2021-05-25',50000,'IT') USING TTL 15;
cqlsh:emp>    SELECT TTL(EMP_NAME) FROM EMPLOYEE_INFO WHERE EMP_ID=1;

 ttl(emp_name)
---------------

(0 rows)
cqlsh:emp> insert into EMPLOYEE_INFO(Emp_Id,Emp_Name,Designation,Date_of_joining,salary,Dept_name)values(001,'SASS','Assistent_SDE','2021-05-25',50000,'IT') USING TTL 15;
cqlsh:emp> SELECT * FROM EMPLOYEE_INFO;

 emp_id | date_of_joining                 | dept_name | designation       | emp_name | project         | salary
--------+---------------------------------+-----------+-------------------+----------+-----------------+--------
    123 | 2020-05-24 18:30:00.000000+0000 |        IT |           Manager |   AMIT   |        {'BOAT'} |  65000
    456 | 2020-09-04 18:30:00.000000+0000 |        IT |               SDE |   NAGRAJ | {'FLUTTER_APP'} |  95000
      1 | 2021-05-24 18:30:00.000000+0000 |        IT |     Assistent_SDE |   SASS   |            null |  50000
    600 | 2021-05-24 18:30:00.000000+0000 |     Sales | Assistant_Manager |    MAX   |  {'ACCOUNTING'} |  45000

(4 rows)
cqlsh:emp> insert into EMPLOYEE_INFO(Emp_Id,Emp_Name,Designation,Date_of_joining,salary,Dept_name)values(001,'SASS','Assistant_SDE','2021-05-25',50000,'IT') USING TTL 15;
cqlsh:emp> SELECT * FROM EMPLOYEE_INFO;

 emp_id | date_of_joining                 | dept_name | designation       | emp_name | project         | salary
--------+---------------------------------+-----------+-------------------+----------+-----------------+--------
    123 | 2020-05-24 18:30:00.000000+0000 |        IT |           Manager |   AMIT   |        {'BOAT'} |  65000
    456 | 2020-09-04 18:30:00.000000+0000 |        IT |               SDE |   NAGRAJ | {'FLUTTER_APP'} |  95000
      1 | 2021-05-24 18:30:00.000000+0000 |        IT |     Assistant_SDE |   SASS   |            null |  50000
    600 | 2021-05-24 18:30:00.000000+0000 |     Sales | Assistant_Manager |    MAX   |  {'ACCOUNTING'} |  45000

(4 rows)
cqlsh:emp> SELECT * FROM EMPLOYEE_INFO;

 emp_id | date_of_joining                 | dept_name | designation       | emp_name | project         | salary
--------+---------------------------------+-----------+-------------------+----------+-----------------+--------
    123 | 2020-05-24 18:30:00.000000+0000 |        IT |           Manager |   AMIT   |        {'BOAT'} |  65000
    456 | 2020-09-04 18:30:00.000000+0000 |        IT |               SDE |   NAGRAJ | {'FLUTTER_APP'} |  95000
    600 | 2021-05-24 18:30:00.000000+0000 |     Sales | Assistant_Manager |    MAX   |  {'ACCOUNTING'} |  45000

(3 rows)
cqlsh:emp>
```