LABORATORY PROGRAM – 2

Perform the following DB operations using Cassandra

Questions:

a) Create a keyspace by name Employee
b) Create a column family by name

- Employee-Info with attributes
- Emp_Id Primary Key, Emp_Name,
- Designation, Date_of_Joining,
- Salary, Dept_Name

c) Insert the values into the table in batch
d) Update Employee name and Department of Emp-Id 121
e) Sort the details of Employee records based on salary
f) Alter the schema of the table Employee_Info to add a column Projects which stores a set of Projects done by the corresponding Employee.
g) Update the altered table to add project names.
h) Create a TTL of 15 seconds to display the values of Employees.

Command with output:

```
cqlsh> CREATE KEYSPACE IF NOT EXISTS Employee
   ... WITH replication = {'class': 'SimpleStrategy', 'replication_factor': 1};
cqlsh> USE Employee;
cqlsh:employee> CREATE TABLE IF NOT EXISTS Employee_Info (
            ...   Emp_Id INT PRIMARY KEY,
            ...   Emp_Name TEXT,
            ...   Designation TEXT,
            ...   Date_of_Joining DATE,
            ...   Salary DOUBLE,
            ...   Dept_Name TEXT
            ... );
cqlsh:employee> BEGIN BATCH
            ... INSERT INTO Employee_Info (Emp_Id, Emp_Name, Designation, Date_of_Joining, Salary, Dept_Name)
            ... VALUES (121, 'John Doe', 'Manager', '2018-01-01', 90000, 'HR');
            ...
            ... INSERT INTO Employee_Info (Emp_Id, Emp_Name, Designation, Date_of_Joining, Salary, Dept_Name)
            ... VALUES (122, 'Alice Smith', 'Developer', '2019-05-21', 75000, 'IT');
            ...
            ... INSERT INTO Employee_Info (Emp_Id, Emp_Name, Designation, Date_of_Joining, Salary, Dept_Name)
            ... VALUES (123, 'Rahul Roy', 'Analyst', '2020-07-15', 65000, 'IT');
            ... APPLY BATCH;
cqlsh:employee> UPDATE Employee_Info
            ... SET Emp_Name = 'John Smith', Dept_Name = 'Finance'
            ... WHERE Emp_Id = 121;
cqlsh:employee> select * from Employee_Info;

 emp_id | date_of_joining | dept_name | designation | emp_name    | salary
--------+-----------------+-----------+-------------+-------------+--------
    123 |      2020-07-15 |        IT |     Analyst |   Rahul Roy |  65000
    122 |      2019-05-21 |        IT |   Developer | Alice Smith |  75000
    121 |      2018-01-01 |   Finance |     Manager |  John Smith |  90000

(3 rows)
```

```
(3 rows)
cqlsh:employee> CREATE TABLE IF NOT EXISTS Employee_By_Dept (
           ...   Dept_Name TEXT,
           ...   Salary DOUBLE,
           ...   Emp_Id INT,
           ...   Emp_Name TEXT,
           ...   Designation TEXT,
           ...   Date_of_Joining DATE,
           ...   PRIMARY KEY (Dept_Name, Salary, Emp_Id)
           ... ) WITH CLUSTERING ORDER BY (Salary DESC, Emp_Id ASC);
cqlsh:employee> BEGIN BATCH
           ... INSERT INTO Employee_By_Dept (Dept_Name, Salary, Emp_Id, Emp_Name, Designation, Date_of_Joining)
           ... VALUES ('HR', 90000, 121, 'John Smith', 'Manager', '2018-01-01');
           ...
           ... INSERT INTO Employee_By_Dept (Dept_Name, Salary, Emp_Id, Emp_Name, Designation, Date_of_Joining)
           ... VALUES ('IT', 75000, 122, 'Alice Smith', 'Developer', '2019-05-21');
           ...
           ... INSERT INTO Employee_By_Dept (Dept_Name, Salary, Emp_Id, Emp_Name, Designation, Date_of_Joining)
           ... VALUES ('IT', 65000, 123, 'Rahul Roy', 'Analyst', '2020-07-15');
           ... APPLY BATCH;
cqlsh:employee> SELECT * FROM Employee_By_Dept WHERE Dept_Name = 'IT';

 dept_name | salary | emp_id | date_of_joining | designation | emp_name
-----------+--------+--------+-----------------+-------------+-------------
        IT |  75000 |    122 |      2019-05-21 |   Developer | Alice Smith
        IT |  65000 |    123 |      2020-07-15 |     Analyst |   Rahul Roy

(2 rows)
cqlsh:employee> ALTER TABLE Employee_Info ADD Projects SET<TEXT>;
cqlsh:employee> UPDATE Employee_Info SET Projects = {'ERP System', 'HR Portal'} WHERE Emp_Id = 121;
cqlsh:employee> INSERT INTO Employee_Info (Emp_Id, Emp_Name, Designation, Date_of_Joining, Salary, Dept_Name)
           ... VALUES (124, 'Sneha Kapoor', 'Tester', '2023-03-10', 55000, 'QA') USING TTL 15;
cqlsh:employee> select * from Employee_Info;

 emp_id | date_of_joining | dept_name | designation | emp_name    | projects                    | salary
--------+-----------------+-----------+-------------+-------------+-----------------------------+--------
    123 |      2020-07-15 |        IT |     Analyst |   Rahul Roy |                        null |  65000
    122 |      2019-05-21 |        IT |   Developer | Alice Smith |                        null |  75000
    121 |      2018-01-01 |   Finance |     Manager |  John Smith | {'ERP System', 'HR Portal'} |  90000

(3 rows)
```