

Program 1. Perform the following DB operations using Cassandra.

```
bmsce@bmsce-Precision-T1700:~/cassandra/apache-cassandra-3.11.0/bin$ cqlsh
Connected to Test Cluster at 127.0.0.1:9042.
[cqlsh 5.0.1 | Cassandra 3.11.4 | CQL spec 3.4.4 | Native protocol v4]
Use HELP for help.
```

1. Create a key space by name Employee

```
cqlsh> create keyspace Employee with REPLICATION ={
... 'class':'SimpleStrategy','replication_factor':1
... };
```

```
cqlsh> use Employee;
```

```
cqlsh:employee> describe keyspaces;
```

```
students      system_auth  system_distributed  system_traces
system_schema system      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> CREATE TABLE Employee_Info(
... emp_id int PRIMARY KEY,
... emp_name text,
... designation text,
... date_of_joining timestamp,
... salary double,
... dept_name text
... );
```

```
cqlsh:employee> describe tables
```

```
employee_info
```

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(1,'Arun','Technical head','2020-03-01',50000,'Technical')
... insert into employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)
... values(2,'Ajay','HR manager','2020-06-11',60000,'HR')
... insert into employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)
... values(3,'Riya','Editor','2022-01-11',22000,'Markrting')
... insert into employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)
... values(4,'Kshma','Software Engineer','2021-05-11',35000,'Technical')
... insert into employee_info(emp_id,emp_name,designation,date_of_joining,salary,dept_name)
... values(5,'Ram','HR employee','2021-02-11',25000,'HR')
... APPLY BATCH;
```

```
cqlsh:employee> select * from employee_info;
```

emp_id	date_of_joining	dept_name	designation	emp_name	salary
5	2021-02-10 18:30:00.000000+0000	HR	HR employee	Ram	25000
1	2020-02-29 18:30:00.000000+0000	Technical	Technical head	Arun	50000
2	2020-06-10 18:30:00.000000+0000	HR	HR manager	Ajay	60000
4	2021-05-10 18:30:00.000000+0000	Technical	Software Engineer	Kshma	35000
3	2022-01-10 18:30:00.000000+0000	Marketing	Editor	Riya	22000

4. Update Employee name and Department of Emp-Id 3

```
cqlsh:employee> UPDATE employee_info SET emp_name = 'Raj' , dept_name = 'Sales' where emp_id = 3;
```

```
cqlsh:employee> select * from employee_info;
```

emp_id	date_of_joining	dept_name	designation	emp_name	salary
5	2021-02-10 18:30:00.000000+0000	HR	HR employee	Ram	25000
1	2020-02-29 18:30:00.000000+0000	Technical	Technical head	Arun	50000
2	2020-06-10 18:30:00.000000+0000	HR	HR manager	Ajay	60000
4	2021-05-10 18:30:00.000000+0000	Technical	Software Engineer	Kshma	35000
3	2022-01-10 18:30:00.000000+0000	Sales	Editor	Raj	22000

5. Sort the details of Employee records based on salary

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 project text;
```

```
cqlsh:employee> select * from employee_info;
```

emp_id	date_of_joining	dept_name	designation	emp_name	project	salary
5	2021-02-10 18:30:00.000000+0000	HR	HR employee	Ram	null	25000
1	2020-02-29 18:30:00.000000+0000	Technical	Technical head	Arun	null	50000
2	2020-06-10 18:30:00.000000+0000	HR	HR manager	Ajay	null	60000
4	2021-05-10 18:30:00.000000+0000	Technical	Software Engineer	Kshma	null	35000
3	2022-01-10 18:30:00.000000+0000	Sales	Editor	Raj	null	22000

(5 rows)

7. Update the altered table to add project names.

```
cqlsh:employee> begin batch
```

```
... update employee_info set project = 'xyz' where emp_id = 3
```

```
... update employee_info set project = 'pqr' where emp_id = 5
```

```
... update employee_info set project = 'pqr' where emp_id = 2
```

```
... update employee_info set project = 'abc' where emp_id = 1
```

```
... update employee_info set project = 'abc' where emp_id = 4
```

... apply batch;

cqlsh:employee> select * from employee_info;

emp_id	date_of_joining	dept_name	designation	emp_name	project	salary
5	2021-02-10 18:30:00.000000+0000	HR	HR employee	Ram	pqr	25000
1	2020-02-29 18:30:00.000000+0000	Technical	Technical head	Arun	abc	50000
2	2020-06-10 18:30:00.000000+0000	HR	HR manager	Ajay	pqr	60000
4	2021-05-10 18:30:00.000000+0000	Technical	Software Engineer	Kshma	abc	35000
3	2022-01-10 18:30:00.000000+0000	Sales	Editor	Raj	xyz	22000

(5 rows)

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

OUTPUT:

```
bmsce@bmsce-Precision-T1700: ~/cassandra/apache-cassandra-3.11.0/bin
cqlsh:employee> alter table employee_info
... add project text;
cqlsh:employee> select * from employee_info;
```

emp_id	date_of_joining	dept_name	designation	emp_name	project	salary
5	2021-02-10 18:30:00.000000+0000	HR	HR employee	Ram	null	25000
1	2020-02-29 18:30:00.000000+0000	Technical	Technical head	Arun	null	50000
2	2020-06-10 18:30:00.000000+0000	HR	HR manager	Ajay	null	60000
4	2021-05-10 18:30:00.000000+0000	Technical	Software Engineer	Kshma	null	35000
3	2022-01-10 18:30:00.000000+0000	Sales	Editor	Raj	null	22000

(5 rows)

```
cqlsh:employee> begin batch
... update employee_info set project = 'abc' where emp_id = 1 and emp_id = 4
... update employee_info set project = 'pqr' where emp_id = 5 and emp_id = 2
... update employee_info set project = 'xyz' where emp_id = 3
... apply batch;
InvalidRequest: Error from server: code=2200 [Invalid query] message="emp_id cannot be restricted by more than one relation if i
t includes an Equal"
cqlsh:employee> begin batch
... update employee_info set project = 'xyz' where emp_id = 3
... update employee_info set project = 'pqr' where emp_id = 5
... update employee_info set project = 'pqr' where emp_id = 2
... update employee_info set project = 'abc' where emp_id = 1
... update employee_info set project = 'abc' where emp_id = 4
... apply batch;
cqlsh:employee> select * from employee_info;
```

emp_id	date_of_joining	dept_name	designation	emp_name	project	salary
5	2021-02-10 18:30:00.000000+0000	HR	HR employee	Ram	pqr	25000
1	2020-02-29 18:30:00.000000+0000	Technical	Technical head	Arun	abc	50000
2	2020-06-10 18:30:00.000000+0000	HR	HR manager	Ajay	pqr	60000
4	2021-05-10 18:30:00.000000+0000	Technical	Software Engineer	Kshma	abc	35000
3	2022-01-10 18:30:00.000000+0000	Sales	Editor	Raj	xyz	22000