**NAME: HRITIK SINGH**

**USN:1BM19CS063**

**SECTION : 6-B**

**BATCH : 1**

## BDA LAB WEEK3 CASSANDRA ASSIGNMENT WITH SCREENSHOTS:

1. Create a key space by name Employee

```
cqlsh> describe keyspaces;

system_schema  system         system_distributed
system_auth    test_keyspace  system_traces

cqlsh> create keyspace Employee with replication={'class':'SimpleStrategy','replication_factor':2};
cqlsh> describe keyspace Employee;

CREATE KEYSPACE employee WITH replication = {'class': 'SimpleStrategy', 'replication_factor': '2'}  AND durable_writes = true;

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> CREATE TABLE Employee_Info(cluster_col text,Emp_id int,Emp_Name text,Designation text,Date_of_Joining timestamp,Salary int,Dept_Name text,primary key(clust
r_col,Salary)) WITH CLUSTERING ORDER BY(Salary DESC);
cqlsh:employee> select*from employee;
InvalidRequest: Error from server: code=2200 [Invalid query] message="unconfigured table employee"
cqlsh:employee> select*from employee_info;

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

3. Insert the values into the table in batch

```
(0 rows)
cqlsh:employee> BEGIN BATCH
           ... INSERT INTO Employee_Info(cluster_col,emp_id,emp_name,designation,Date_of_Joining,Salary,Dept_Name) VALUES ('xyz',1,'Ravi','MTS','2020-08-24',12000,'TESTIN
');
           ... INSERT INTO Employee_Info(cluster_col,emp_id,emp_name,designation,Date_of_Joining,Salary,Dept_Name) VALUES ('xyz',2,'Vamshi','MANAGER','2021-03-20',50000,'D
EVELOPEMENT');
           ... INSERT INTO Employee_Info(cluster_col,emp_id,emp_name,designation,Date_of_Joining,Salary,Dept_Name) VALUES ('xyz',121,'Kiran','SDE','2019-04-21',10000,'PRO
UCTION');
           ... INSERT INTO Employee_Info(cluster_col,emp_id,emp_name,designation,Date_of_Joining,Salary,Dept_Name) VALUES ('xyz',3,'Ramesh','ANALYST','2020-05-07',20000,'Q
UALITY');
           ... APPLY BATCH;
cqlsh:employee> SELECT*FROM Employee_Info;

 cluster_col | salary | date_of_joining                 | dept_name   | designation | emp_id | emp_name
-------------+--------+---------------------------------+-------------+-------------+--------+----------
         xyz |  50000 | 2021-03-19 18:30:00.000000+0000 | DEVELOPEMENT |     MANAGER |      2 |   Vamshi
         xyz |  20000 | 2020-05-06 18:30:00.000000+0000 |     QUALITY |     ANALYST |      3 |   Ramesh
         xyz |  12000 | 2020-08-23 18:30:00.000000+0000 |     TESTING |         MTS |      1 |    Ravi
         xyz |  10000 | 2019-04-20 18:30:00.000000+0000 |  PRODUCTION |         SDE |    121 |    Kiran

(4 rows)
```

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

```
cqlsh:employee> update Employee_Info SET emp_name='karthik',dept_name='Compliance' where cluster_col='xyz' and salary=10000 IF emp_id=121;

 [applied]
-----------
      True

cqlsh:employee> SELECT*FROM Employee_Info;

 cluster_col | salary | date_of_joining                 | dept_name   | designation | emp_id | emp_name | projects
-------------+--------+---------------------------------+-------------+-------------+--------+----------+----------------------
         xyz |  50000 | 2021-03-19 18:30:00.000000+0000 | DEVELOPEMENT |     MANAGER |      2 |   Vamshi |         {'AI', 'DS'}
         xyz |  20000 | 2020-05-06 18:30:00.000000+0000 |     QUALITY |     ANALYST |      3 |   Ramesh |           {'DEVOPS'}
         xyz |  12000 | 2020-08-23 18:30:00.000000+0000 |     TESTING |         MTS |      1 |     Ravi |               {'ML'}
         xyz |  10000 | 2019-04-20 18:30:00.000000+0000 |  Compliance |         SDE |    121 |  karthik | {'QUANTUM COMPUTING'}
```

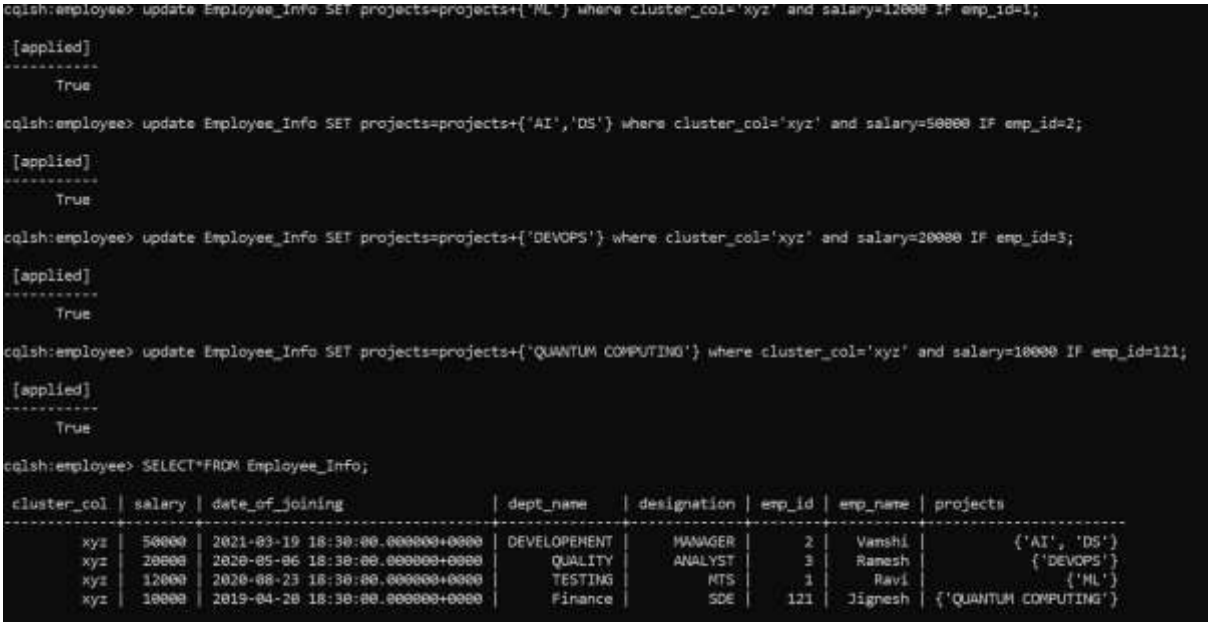
5. Sort the details of Employee records based on salary

```
cqlsh:employee> SELECT*FROM Employee_Info;

 cluster_col | salary | date_of_joining                 | dept_name   | designation | emp_id | emp_name | projects
-------------+--------+---------------------------------+-------------+-------------+--------+----------+----------
         xyz |  50000 | 2021-03-19 18:30:00.000000+0000 | DEVELOPEMENT |     MANAGER |      2 |   Vamshi |     null
         xyz |  20000 | 2020-05-06 18:30:00.000000+0000 |     QUALITY |     ANALYST |      3 |   Ramesh |     null
         xyz |  12000 | 2020-08-23 18:30:00.000000+0000 |     TESTING |         MTS |      1 |     Ravi |     null
         xyz |  10000 | 2019-04-20 18:30:00.000000+0000 |     Finance |         SDE |    121 |  Jignesh |     null
```

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.

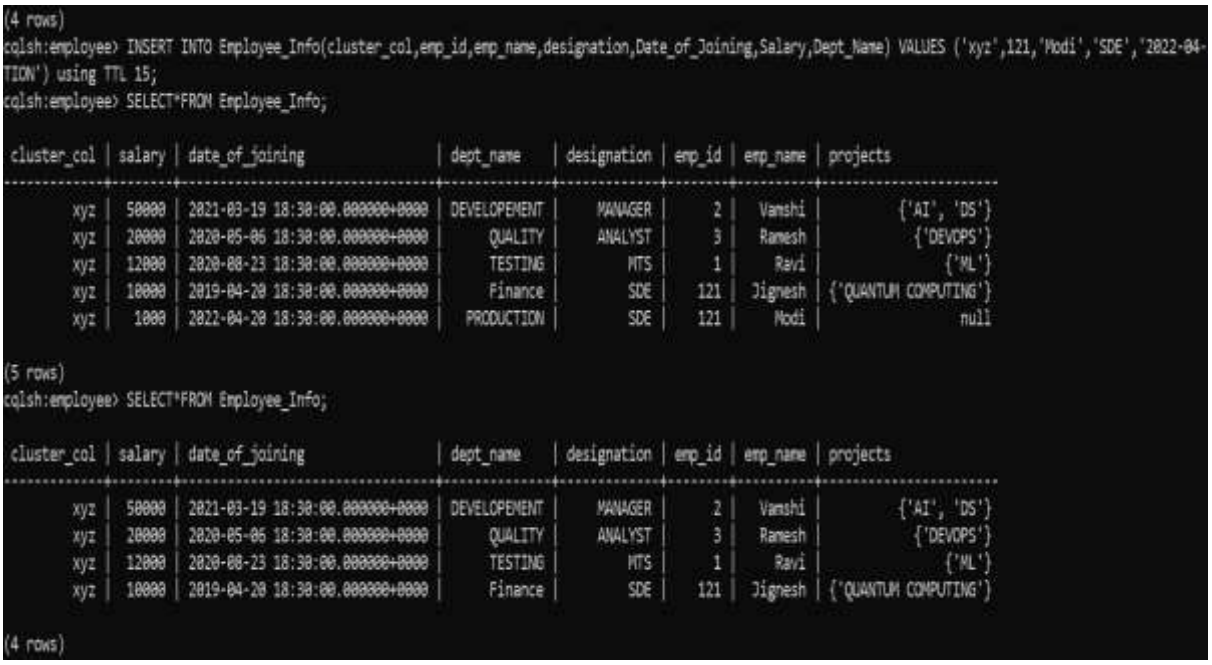
```
cqlsh:employee> alter table Employee_Info add Projects set<text>;
cqlsh:employee> SELECT*FROM Employee_Info;

 cluster_col | salary | date_of_joining                 | dept_name   | designation | emp_id | emp_name | projects
-------------+--------+---------------------------------+-------------+-------------+--------+----------+----------
         xyz |  50000 | 2021-03-19 18:30:00.000000+0000 | DEVELOPEMENT |     MANAGER |      2 |   Vamshi |     null
         xyz |  20000 | 2020-05-06 18:30:00.000000+0000 |     QUALITY |     ANALYST |      3 |   Ramesh |     null
         xyz |  12000 | 2020-08-23 18:30:00.000000+0000 |     TESTING |         MTS |      1 |     Ravi |     null
         xyz |  10000 | 2019-04-20 18:30:00.000000+0000 |     Finance |         SDE |    121 |  Jignesh |     null

(4 rows)
```

7. Update the altered table to add project names.



```
cqlsh:employee> update Employee_Info SET projects=projects+{'ML'} where cluster_col='xyz' and salary=1000 IF emp_id=1;

 [applied]
-----------
      True

cqlsh:employee> update Employee_Info SET projects=projects+{'AI','DS'} where cluster_col='xyz' and salary=50000 IF emp_id=2;

 [applied]
-----------
      True

cqlsh:employee> update Employee_Info SET projects=projects+{'DEVOPS'} where cluster_col='xyz' and salary=20000 IF emp_id=3;

 [applied]
-----------
      True

cqlsh:employee> update Employee_Info SET projects=projects+{'QUANTUM COMPUTING'} where cluster_col='xyz' and salary=10000 IF emp_id=121;

 [applied]
-----------
      True

cqlsh:employee> SELECT*FROM Employee_Info;

 cluster_col | salary | date_of_joining                 | dept_name    | designation | emp_id | emp_name | projects
-------------+--------+---------------------------------+--------------+-------------+--------+----------+----------------------
         xyz |  50000 | 2021-03-19 18:30:00.000000+0000 | DEVELOPEMENT |     MANAGER |      2 |   Vamshi |          {'AI', 'DS'}
         xyz |  20000 | 2020-05-06 18:30:00.000000+0000 |      QUALITY |     ANALYST |      3 |   Ramesh |           {'DEVOPS'}
         xyz |  12000 | 2020-08-23 18:30:00.000000+0000 |      TESTING |         MTS |      1 |     Ravi |               {'ML'}
         xyz |  10000 | 2019-04-20 18:30:00.000000+0000 |      Finance |         SDE |    121 |  Jignesh | {'QUANTUM COMPUTING'}
```

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



```
(4 rows)
cqlsh:employee> INSERT INTO Employee_Info(cluster_col,emp_id,emp_name,designation,Date_of_Joining,Salary,Dept_Name) VALUES ('xyz',121,'Modi','SDE','2022-04-
TION') using TTL 15;
cqlsh:employee> SELECT*FROM Employee_Info;

 cluster_col | salary | date_of_joining                 | dept_name    | designation | emp_id | emp_name | projects
-------------+--------+---------------------------------+--------------+-------------+--------+----------+----------------------
         xyz |  50000 | 2021-03-19 18:30:00.000000+0000 | DEVELOPEMENT |     MANAGER |      2 |   Vamshi |          {'AI', 'DS'}
         xyz |  20000 | 2020-05-06 18:30:00.000000+0000 |      QUALITY |     ANALYST |      3 |   Ramesh |           {'DEVOPS'}
         xyz |  12000 | 2020-08-23 18:30:00.000000+0000 |      TESTING |         MTS |      1 |     Ravi |               {'ML'}
         xyz |  10000 | 2019-04-20 18:30:00.000000+0000 |      Finance |         SDE |    121 |  Jignesh | {'QUANTUM COMPUTING'}
         xyz |   1000 | 2022-04-20 18:30:00.000000+0000 |   PRODUCTION |         SDE |    121 |     Modi |                 null

(5 rows)
cqlsh:employee> SELECT*FROM Employee_Info;

 cluster_col | salary | date_of_joining                 | dept_name    | designation | emp_id | emp_name | projects
-------------+--------+---------------------------------+--------------+-------------+--------+----------+----------------------
         xyz |  50000 | 2021-03-19 18:30:00.000000+0000 | DEVELOPEMENT |     MANAGER |      2 |   Vamshi |          {'AI', 'DS'}
         xyz |  20000 | 2020-05-06 18:30:00.000000+0000 |      QUALITY |     ANALYST |      3 |   Ramesh |           {'DEVOPS'}
         xyz |  12000 | 2020-08-23 18:30:00.000000+0000 |      TESTING |         MTS |      1 |     Ravi |               {'ML'}
         xyz |  10000 | 2019-04-20 18:30:00.000000+0000 |      Finance |         SDE |    121 |  Jignesh | {'QUANTUM COMPUTING'}

(4 rows)
```