Cassandra Program - 1

1. Create a key space by name Employee

```
cqlsh> CREATE KEYSPACE Empyolees WITH REPLICATION = { 'class' : 'SimpleStrategy',
'replication_factor' : 1 };

cqlsh> DESCRIBE KEYSPACES;

system_schema  crud   project  system_distributed  system_traces
system_auth    system  student  empyolees

cqlsh> USE Employees;
```

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:employees> CREATE TABLE Employee_Info (
            ... Emp_Id int PRIMARY KEY,
            ... Emp_Name text,
            ... Designation text,
            ... Date_Of_Joining timestamp,
            ... Salary int,
            ... Dept_Name text
            ... );

cqlsh:employees> DESCRIBE TABLES;

employee_info

cqlsh:employees> DESCRIBE TABLE Employee_Info;

CREATE TABLE employees.employee_info (
    emp_id int PRIMARY KEY,
    date_of_joining timestamp,
    dept_name text,
    designation text,
    emp_name text,
    salary int
) WITH bloom_filter_fp_chance = 0.01
    AND caching = {'keys': 'ALL', 'rows_per_partition': 'NONE'}
    AND comment = ''
    AND compaction = {'class': 'org.apache.cassandra.db.compaction.SizeTieredCompactionStrategy',
'max_threshold': '32', 'min_threshold': '4'}
    AND compression = {'chunk_length_in_kb': '64', 'class':
'org.apache.cassandra.io.compress.LZ4Compressor'}
    AND crc_check_chance = 1.0
    AND dclocal_read_repair_chance = 0.1
    AND default_time_to_live = 0
```

```
    AND gc_grace_seconds = 864000
    AND max_index_interval = 2048
    AND memtable_flush_period_in_ms = 0
    AND min_index_interval = 128
    AND read_repair_chance = 0.0
    AND speculative_retry = '99PERCENTILE';
```

3. Insert the values into the table in batch

```
cqlsh:employees> BEGIN BATCH
           ... INSERT INTO Employee_Info
(Emp_Id,Emp_Name,Designation,Date_of_Joining,Salary,Dept_Name) VALUES (1,'Bruce
Wayne','CEO','2022-04-22',100000,'Management')
           ... INSERT INTO Employee_Info
(Emp_Id,Emp_Name,Designation,Date_of_Joining,Salary,Dept_Name) VALUES (2,'Clark
Kent','Senior Software Engineer','2022-04-24',70000,'Developemt')
           ... INSERT INTO Employee_Info
(Emp_Id,Emp_Name,Designation,Date_of_Joining,Salary,Dept_Name) VALUES (3,'Diana Prince','Jr
Software Engineer','2022-04-30',70000,'Developemt')
           ... INSERT INTO Employee_Info
(Emp_Id,Emp_Name,Designation,Date_of_Joining,Salary,Dept_Name) VALUES (4,'Aurthr
Curry','Senior Manager','2022-05-30',70000,'Developemt')
           ... APPLY BATCH;
```

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

emp_id	date_of_joining	dept_name	designation	emp_name	salary
1	2022-04-21 18:30:00.000000+0000	Management	CEO	Bruce Wayne	100000
2	2022-04-23 18:30:00.000000+0000	Developemt	Senior Software Engineer	Clark Kent	70000
4	2022-05-29 18:30:00.000000+0000	Developemt	Senior Manager	Aurthr Curry	70000
121	2022-06-29 18:30:00.000000+0000	Accounts	Accountant	Barry Allen	60000
3	2022-04-29 18:30:00.000000+0000	Developemt	Jr Software Engineer	Diana Prince	70000

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

```
cqlsh:employees> UPDATE Employee_Info SET Emp_Name = 'Wally West', dept_name = 'HR'
WHERE Emp_id = 121;
```

emp_id	date_of_joining	dept_name	designation	emp_name	salary
1	2022-04-21 18:30:00.000000+0000	Management	CEO	Bruce Wayne	100000
2	2022-04-23 18:30:00.000000+0000	Developemt	Senior Software Engineer	Clark Kent	70000
4	2022-05-29 18:30:00.000000+0000	Developemt	Senior Manager	Aurthr Curry	70000
121	2022-06-29 18:30:00.000000+0000	HR	Accountant	Wally West	60000
3	2022-04-29 18:30:00.000000+0000	Developemt	Jr Software Engineer	Diana Prince	70000

5. Sort the details of Employee records based on salary

```
cqlsh:employees> CREATE TABLE Employee_Info (
           ... Emp_Id int,
```

```
... Emp_Name text,
... Designation text,
... Date_Of_Joining timestamp,
... Salary int,
... Dept_Name text,
… PRIMARY KEY (Emp_Id , Salary)
... ) WITH CLUSTERING ORDER BY (Salary desc);
```

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

```
 emp_id | date_of_joining                 | dept_name   | designation             | emp_name      |salary
--------+---------------------------------+-------------+-------------------------+---------------+--------
    121 | 2022-06-29 18:30:00.000000+0000 |      HR     |       Accountant        | Wally West    |60000
      3 | 2022-04-29 18:30:00.000000+0000 |  Development|   Jr Software Manager   | Diana Prince  |70000
      2 | 2022-04-23 18:30:00.000000+0000 |  Management |Senior Software Manager  |Clark Kent     |70000
      4 | 2022-05-29 18:30:00.000000+0000 |  Development|      Senior Manager     | Aurthur Curry |70000
    1 | 2022-04-21 18:30:00.000000+0000 |  Management |          CEO            |Bruce Wayne    |100000
```

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 text;
```

```
cqlsh:employee> select * from Employee_Info;
 emp_id | date_of_joining                 | dept_name   | designation             | emp_name      | projects     |salary
--------+---------------------------------+-------------+-------------------------+---------------+--------------+--------
      1 | 2022-04-21 18:30:00.000000+0000 |  Management |          CEO            |Bruce Wayne    |     null     |100000
      2 | 2022-04-23 18:30:00.000000+0000 |  Management |Senior Software Manager  |Clark Kent     |     null     |70000
      4 | 2022-05-29 18:30:00.000000+0000 |  Development|      Senior Manager     | Aurthur Curry |     null     |70000
    121 | 2022-06-29 18:30:00.000000+0000 |      HR     |       Accountant        | Wally West    |     null     |60000
      3 | 2022-04-29 18:30:00.000000+0000 |  Development|   Jr Software Manager   | Diana Prince  |     null     |70000
```

7. Update the altered table to add project names.

```
cqlsh:employee> UPDATE Employee_Info SET Projects='Research' WHERE Emp_id=1 and
salary=100000.0;
cqlsh:employee> select * from Employee_Info;
```

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

```
 emp_id | date_of_joining                 | dept_name   | designation             | emp_name      | projects     |salary
--------+---------------------------------+-------------+-------------------------+---------------+--------------+--------
      1 | 2022-04-21 18:30:00.000000+0000 |  Management |          CEO            |Bruce Wayne    |  Research    |100000
      2 | 2022-04-23 18:30:00.000000+0000 |  Management |Senior Software Manager  |Clark Kent     |     null     |70000
      4 | 2022-05-29 18:30:00.000000+0000 |  Development|      Senior Manager     | Aurthur Curry |     null     |70000
    121 | 2022-06-29 18:30:00.000000+0000 |      HR     |       Accountant        | Wally West    |     null     |60000
      3 | 2022-04-29 18:30:00.000000+0000 |  Development|   Jr Software Manager   | Diana Prince  |     null     |70000
```

```
cqlsh:employee> UPDATE Employee_Info SET Projects='Data Migration' WHERE Emp_id=2 and
salary=70000.0;
cqlsh:employee> UPDATE Employee_Info SET Projects='Data analysis' WHERE Emp_id=3 and
salary=70000.0;
cqlsh:employee> UPDATE Employee_Info SET Projects='Reporting' WHERE Emp_id=121 and
salary=60000.0;
cqlsh:employee> UPDATE Employee_Info SET Projects='Research' WHERE Emp_id=4 and
salary=70000.0;

cqlsh:employee> select * from Employee_Info;

 emp_id | date_of_joining                  | dept_name        | designation             | emp_name          | projects     |salary
---------+----------------------------------+------------------+-------------------------+-------------------+--------------+--------
   1 | 2022-04-21 18:30:00.000000+0000 |      Management |                  CEO            |Bruce Wayne  | Research  |100000
   2 | 2022-04-23 18:30:00.000000+0000 |    Management |Senior Software Manager|Clark Kent     | Data Migration  |70000
   4 | 2022-05-29 18:30:00.000000+0000 |     Development|        Senior Manager       | Aurthur Curry |Data analysis  |70000
 121 | 2022-06-29 18:30:00.000000+0000 |       HR          |        Accountant             | Wally West    |Reporting  |60000
   3 | 2022-04-29 18:30:00.000000+0000 |      Development|    Jr Software Manager    | Diana Prince  |Research  |70000
```

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

```
cqlsh:employee> INSERT INTO Employee_Info(Emp_id, Emp_Name, Designation, Date_Of_Joining, salary,
Dept_name) VALUES (5,'John Jones','CTO','2022-04-01',80000.0,'Space Station') using ttl 15;

cqlsh:employee> select ttl(Emp_Name) from Employee_Info Where Emp_id=5;

 ttl(emp_name)
---------------
             6
```