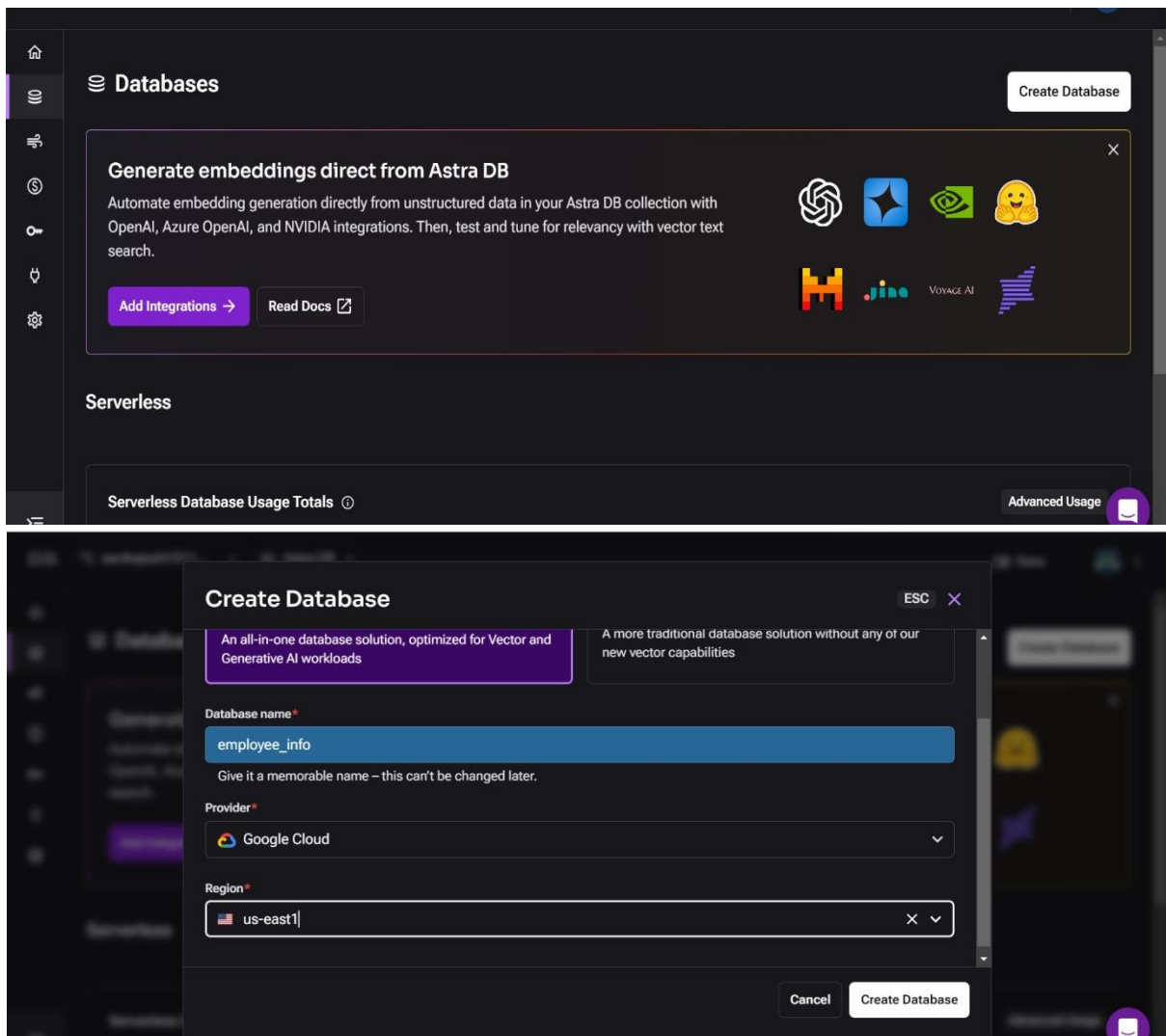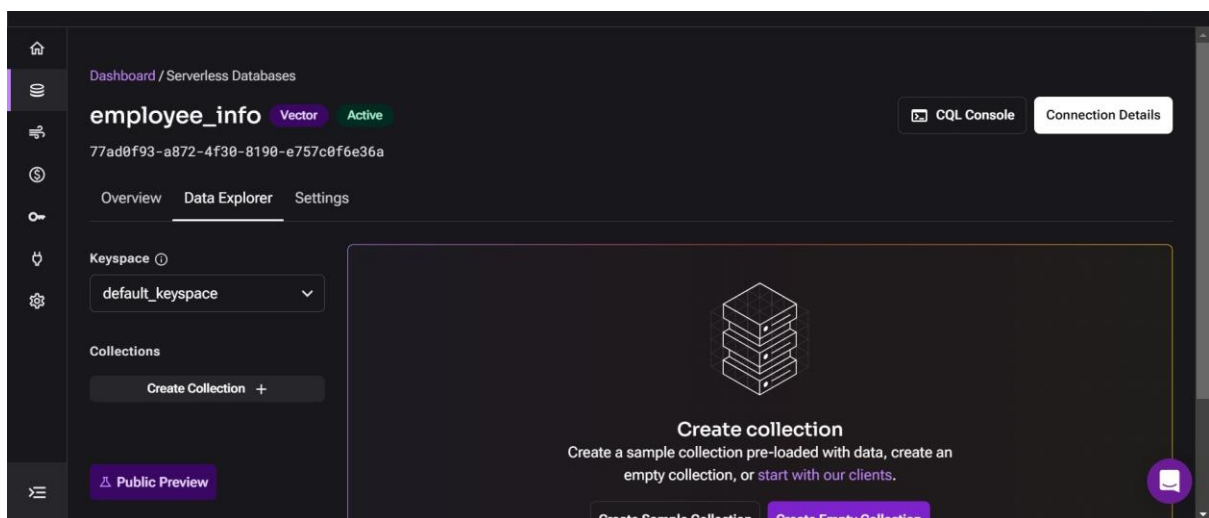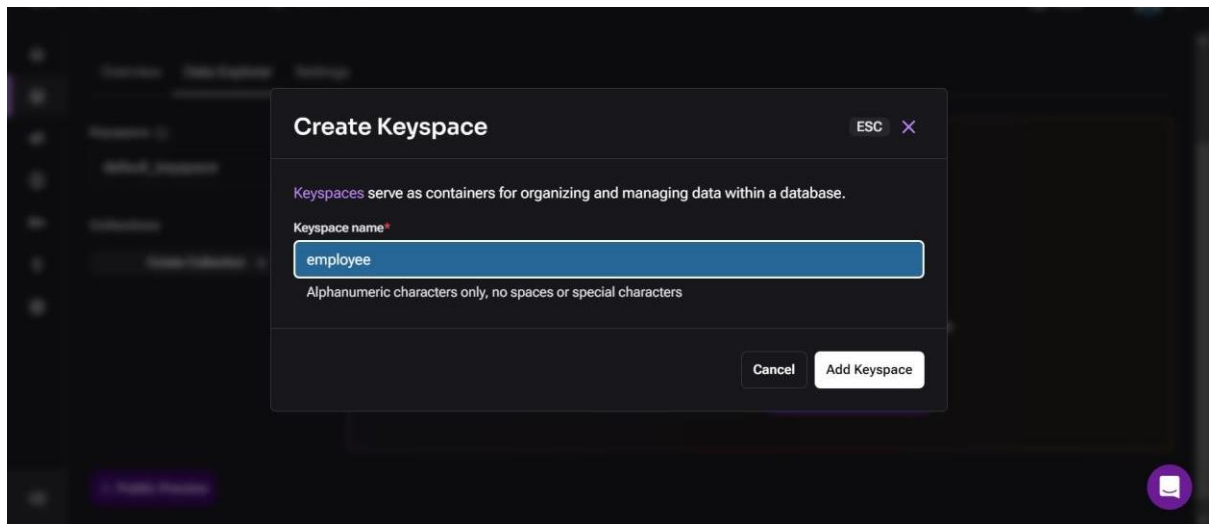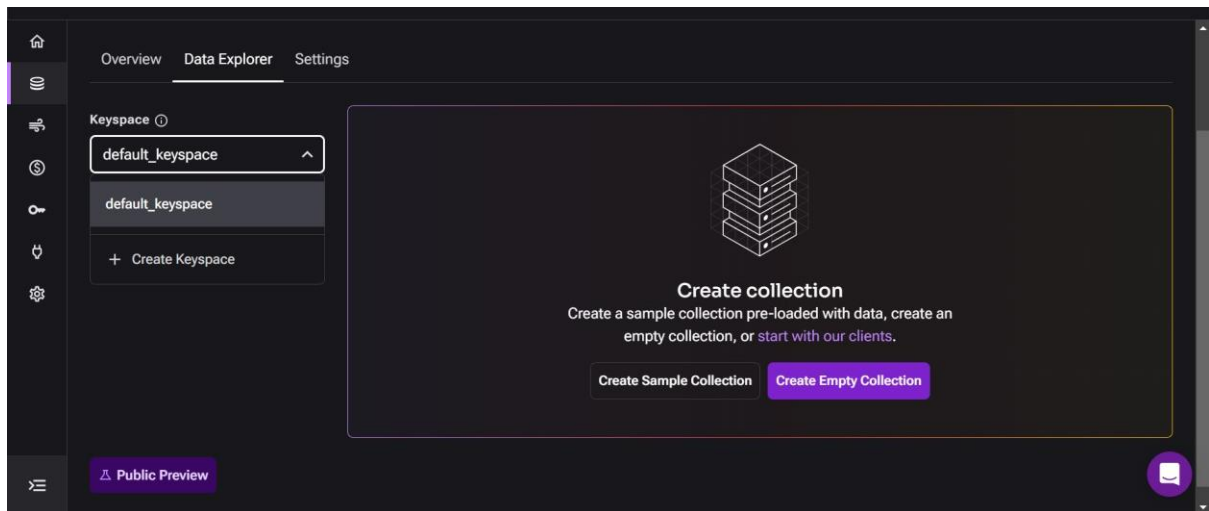# Assignment : 8

Name: Digvijay Patil

Roll No: B53

Assignment :Create and manage NoSQL Databases with Cassandra

```
Connected to cndb at cassandra.ingress:9042.                                                                    Region: us-east1  []
[cqlsh 6.8.0 | Cassandra 4.0.0.6816 | CQL spec 3.4.5 | Native protocol v4 | TLS]
Use HELP for help.
token@cqlsh> DESCRIBE KEYSPACES;

data_endpoint_auth  employee          system_traces  system_virtual_schema
system_auth         default_keyspace  datastax_sla
system_schema       system            system_views

token@cqlsh> USE employee;
token@cqlsh:employee> CREATE TABLE EMP_TABLE(EMP_ID INT, NAME TEXT, CITY TEXT, DESTINATION TEXT, EXPERIENCE FLOAT, PRIMARY KEY(EMP_ID));
token@cqlsh:employee> SELECT * FROM EMP_TABLE;

 emp_id | city | destination | experience | name
--------+------+-------------+------------+------

(0 rows)
token@cqlsh:employee>
```

INSERT ROWS:

INSERT INTO EMP TABLE (EMP ID, NAME, CITY, DESTINATION, EXPERIENCE) VALUES (1, AMIT DESAI', 'KOLHAPUR', 'PUNE, 2.5);

INSERT INTO EMP TABLE (EMP ID, NAME, CITY, DESTINATION, EXPERIENCE) VALUES (2, 'RAJ RANE', 'KOLHAPUR', 'MUMBAI', 2);

INSERT INTO EMP_TABLE (EMP_ID, NAME, CITY, DESTINATION, EXPERIENCE)) VALUES (3, 'RUTURAJ PATIL', 'PUNE', 'KOLHAPUR', 1);

INSERT INTO EMP TABLE (EMP_ID, NAME, CITY, DESTINATION, EXPERIENCE) VALUES (4, 'KARAN MANE', 'KOLHAPUR', 'SANGLI', 1.2);

INSERT INTO EMP_TABLE (EMP_ID, NAME, CITY, DESTINATION, EXPERIENCE) VALUES (5, 'RAM KALE', 'KOLHAPUR', 'SANGLI', 2.1);

```
token@cqlsh:employee> SELECT * FROM EMP_TABLE;

 emp_id | city     | destination | experience | name
--------+----------+-------------+------------+---------------
      5 | KOLHAPUR |      SANGLI |        2.1 |      RAM KALE
      1 | KOLHAPUR |        PUNE |        2.5 |    AMIT DESAI
      2 | KOLHAPUR |      MUMBAI |          2 |      RAJ RANE
      4 |     PUNE |    KOLHAPUR |          1 | RUTURAJ PATIL
      3 | KOLHAPUR |      SANGLI |        1.2 |    KARAN MANE

(5 rows)
token@cqlsh:employee>
```

UPDATE ROWS:

UPDATE EMP_TABLE SET CITY='SANGLI', DESTINATION='SATARA', EXPERIENCE=3 WHERE EMP_ID=5;

```
token@cqlsh:employee> SELECT * FROM EMP_TABLE;

 emp_id | city     | destination | experience | name
--------+----------+-------------+------------+--------------
      5 |   SANGLI |      SATARA |          3 |     RAM KALE
      1 | KOLHAPUR |        PUNE |        2.5 |   AMIT DESAI
      2 | KOLHAPUR |      MUMBAI |          2 |     RAJ RANE
      4 |     PUNE |    KOLHAPUR |          1 | RUTURAJ PATIL
      3 | KOLHAPUR |      SANGLI |        1.2 |   KARAN MANE

(5 rows)
```

UPDATE EMP_TABLE SET CITY='SANGLI' WHERE EMP_ID=2;

```
token@cqlsh:employee> SELECT * FROM EMP_TABLE;

 emp_id | city     | destination | experience | name
--------+----------+-------------+------------+--------------
      5 |   SANGLI |      SATARA |          3 |     RAM KALE
      1 | KOLHAPUR |        PUNE |        2.5 |   AMIT DESAI
      2 |   SANGLI |      MUMBAI |          2 |     RAJ RANE
      4 |     PUNE |    KOLHAPUR |          1 | RUTURAJ PATIL
      3 | KOLHAPUR |      SANGLI |        1.2 |   KARAN MANE

(5 rows)
```

UPDATE ROWS WITH UPSERT:

INSERT INTO EMP_TABLE (EMP_ID, NAME, CITY, DESTINATION, EXPERIENCE) VALUES (1, 'AMIT DESAI', 'VITA', 'SANGLI', 2);

```
token@cqlsh:employee> SELECT * FROM EMP_TABLE;

 emp_id | city     | destination | experience | name
--------+----------+-------------+------------+--------------
      5 |   SANGLI |      SATARA |          3 |     RAM KALE
      1 |     VITA |      SANGLI |          2 |   AMIT DESAI
      2 |   SANGLI |      MUMBAI |          2 |     RAJ RANE
      4 |     PUNE |    KOLHAPUR |          1 | RUTURAJ PATIL
      3 | KOLHAPUR |      SANGLI |        1.2 |   KARAN MANE

(5 rows)
```

INSERT INTO EMP_TABLE (EMP_ID, NAME, CITY, DESTINATION, EXPERIENCE)
VALUES (2, 'RAJ RANE', 'SANGLI', 'PUNE', 4);

```
token@cqlsh:employee> SELECT * FROM EMP_TABLE;

 emp_id | city     | destination | experience | name
--------+----------+-------------+------------+--------------
      5 |   SANGLI |      SATARA |          3 |      RAM KALE
      1 |     VITA |      SANGLI |          2 |    AMIT DESAI
      2 |   SANGLI |        PUNE |          4 |      RAJ RANE
      4 |     PUNE |    KOLHAPUR |          1 | RUTURAJ PATIL
      3 | KOLHAPUR |      SANGLI |        1.2 |    KARAN MANE

(5 rows)
```

RETRIEVE DATA FROM TABLE:

```
token@cqlsh:employee> SELECT * FROM EMP_TABLE;

 emp_id | city     | destination | experience | name
--------+----------+-------------+------------+--------------
      5 |   SANGLI |      SATARA |          3 |      RAM KALE
      1 |     VITA |      SANGLI |          2 |    AMIT DESAI
      2 |   SANGLI |        PUNE |          4 |      RAJ RANE
      4 |     PUNE |    KOLHAPUR |          1 | RUTURAJ PATIL
      3 | KOLHAPUR |      SANGLI |        1.2 |    KARAN MANE

(5 rows)
```

SELECT EMP_ID, NAME, CITY FROM EMP_TABLE;

```
token@cqlsh:employee> SELECT EMP_ID, NAME, CITY FROM EMP_TABLE;

 emp_id | name          | city
--------+---------------+----------
      5 |      RAM KALE |   SANGLI
      1 |    AMIT DESAI |     VITA
      2 |      RAJ RANE |   SANGLI
      4 | RUTURAJ PATIL |     PUNE
      3 |    KARAN MANE | KOLHAPUR

(5 rows)
```

SELECT * FROM EMP_TABLE WHERE EMP_ID = 5;

```
token@cqlsh:employee> SELECT * FROM EMP_TABLE WHERE EMP_ID = 5;

 emp_id | city   | destination | experience | name
--------+--------+-------------+------------+----------
      5 | SANGLI |      SATARA |          3 | RAM KALE

(1 rows)
```

ALTER TABLE ADD COLUMNS ((EMAIL SET<TEXT>, EXPERTISE LIST<TEXT>, PREV_JOBS MAP<TEXT, INT>):

ALTER TABLE EMP_TABLE ADD email set<text>;

ALTER TABLE EMP_TABLE ADD expertise list<text>;

ALTER TABLE EMP_TABLE ADD prev_jobs map<text, int>;

```
token@cqlsh:employee> SELECT * FROM EMP_TABLE;

 emp_id | city     | destination | email | experience | expertise | name          | prev_jobs
--------+----------+-------------+-------+------------+-----------+---------------+----------
      5 |   SANGLI |      SATARA |  null |          3 |      null |      RAM KALE |      null
      1 |     VITA |      SANGLI |  null |          2 |      null |    AMIT DESAI |      null
      2 |   SANGLI |        PUNE |  null |          4 |      null |      RAJ RANE |      null
      4 |     PUNE |    KOLHAPUR |  null |          1 |      null | RUTURAJ PATIL |      null
      3 | KOLHAPUR |      SANGLI |  null |        1.2 |      null |    KARAN MANE |      null

(5 rows)
```

INSERT NEW ROWS

INSERT INTO EMP_TABLE (EMP_ID, NAME, CITY, DESTINATION, EXPERIENCE, email, expertise, prev_jobs) VALUES (6, 'SURAJ PATIL', 'MUMBAI', 'DELHI', 4.5, {'suraj@example.com'}, ['Engineering', 'Management'], {'Software Engineer': 3, 'Project Manager': 2});

INSERT INTO EMP_TABLE (EMP_ID, NAME, CITY, DESTINATION, EXPERIENCE, email, expertise, prev_jobs) VALUES (7, 'AJIT PATIL', 'KADEGAON', 'SANGLI', 4, {'ajit@example.com'}, ['Engineering', 'Programmer'], {'Software Developer': 1, 'Project Manager': 3});

INSERT INTO EMP_TABLE (EMP_ID, NAME, CITY, DESTINATION, EXPERIENCE, email, expertise, prev_jobs) VALUES (8, 'RAJ KAPOOR', 'NASHIK', 'MUMBAI', 5, {'raj@example.com'}, ['Development'], {'Developer': 5});

```
token@cqlsh:employee> SELECT * FROM EMP_TABLE;

 emp_id | city     | destination | email                | experience | expertise                    | name          | prev_jobs
--------+----------+-------------+----------------------+------------+------------------------------+---------------+-------------------------------------------------------
      5 |  SANGLI  |   SATARA    |                 null |          3 |                         null |      RAM KALE |                                                  null
      1 |    VITA  |   SANGLI    |                 null |          2 |                         null |    AMIT DESAI |                                                  null
      8 |  NASHIK  |   MUMBAI    |  {'raj@example.com'} |          5 |              ['Development'] |    RAJ KAPOOR |                                       {'Developer': 5}
      2 |  SANGLI  |    PUNE     |                 null |          4 |                         null |      RAJ RANE |                                                  null
      4 |    PUNE  |  KOLHAPUR   |                 null |          1 |                         null | RUTURAJ PATIL |                                                  null
      7 | KADEGAON |   SANGLI    |  {'ajit@example.com'}|          4 | ['Engineering', 'Programmer']|    AJIT PATIL | {'Project Manager': 3, 'Software Developer': 1}
      6 |  MUMBAI  |   DELHI     | {'suraj@example.com'}|        4.5 | ['Engineering', 'Management']|    SURAJ PATIL | {'Project Manager': 2, 'Software Engineer': 3}
      3 | KOLHAPUR |   SANGLI    |                 null |        1.2 |                         null |    KARAN MANE |                                                  null
```

DELETE ROWS AND VALUES:

Delete an Entire Row

DELETE FROM EMP_TABLE WHERE EMP_ID = 5;

Delete Specific Columns

DELETE email, expertise FROM EMP_TABLE WHERE EMP_ID = 5;

```
token@cqlsh:employee> SELECT * FROM EMP_TABLE;

 emp_id | city     | destination | email                | experience | expertise                    | name          | prev_jobs
--------+----------+-------------+----------------------+------------+------------------------------+---------------+-------------------------------------------------------
      1 |    VITA  |   SANGLI    |                 null |          2 |                         null |    AMIT DESAI |                                                  null
      8 |  NASHIK  |   MUMBAI    |  {'raj@example.com'} |          5 |              ['Development'] |    RAJ KAPOOR |                                       {'Developer': 5}
      2 |  SANGLI  |    PUNE     |                 null |          4 |                         null |      RAJ RANE |                                                  null
      4 |    PUNE  |  KOLHAPUR   |                 null |          1 |                         null | RUTURAJ PATIL |                                                  null
      7 | KADEGAON |   SANGLI    |  {'ajit@example.com'}|          4 | ['Engineering', 'Programmer']|    AJIT PATIL | {'Project Manager': 3, 'Software Developer': 1}
      6 |  MUMBAI  |   DELHI     | {'suraj@example.com'}|        4.5 | ['Engineering', 'Management']|    SURAJ PATIL | {'Project Manager': 2, 'Software Engineer': 3}
      3 | KOLHAPUR |   SANGLI    |                 null |        1.2 |                         null |    KARAN MANE |                                                  null

(7 rows)
```

create table product(

      ... id uuid,

      ... name text,

      ... price float,

      ... quan int,

      ... primary key(id));

CREATE TABLE PRODUCT (ID UUID, NAME TEXT, PRICE FLOAT, QUAN INT, PRIMARY KEY(ID));

```
token@cqlsh:employee>
token@cqlsh:employee> CREATE TABLE PRODUCT(ID UUID, NAME TEXT, PRICE FLOAT, QUAN INT, PRIMARY KEY(ID));
token@cqlsh:employee> SELECT * FROM PRODUCT;

 id | name | price | quan
----+------+-------+------

(0 rows)
```

PERFORM FOLLOWING OPERATIONS ON CREATED TABLE:

INSERT ROWS:

INSERT INTO PRODUCT (ID, NAME, PRICE, QUAN) VALUES(UUID(), 'SIMARAN PATIL', 20000, 4);

INSERT INTO PRODUCT (ID, NAME, PRICE, QUAN) VALUES(UUID(), 'OM RAJMANE', 500.14, 5);

INSERT INTO PRODUCT (ID, NAME, PRICE, QUAN) VALUES(UUID(), 'MITU VARDHAN', 14.44, 2);

INSERT INTO PRODUCT (ID, NAME, PRICE, QUAN) VALUES(UUID(), 'MANISHA WAGH', 60.30, 3);

```
token@cqlsh:employee> SELECT * FROM PRODUCT;

 id                                   | name         | price     | quan
--------------------------------------+--------------+-----------+------
 5a1f4e08-c437-4978-866d-36933194042e | MITU VARDHAN |     14.44 |    2
 f01e6ade-fdb4-4ae5-8d41-1cfd1ad8db20 |   OM RAJMANE | 500.14001 |    5
 b1cb111f-d219-49d4-9662-a7a93657e4cc | SIMARAN PATIL|     20000 |    4
 46bc907c-3a4f-4528-aa3d-d574e993ffdd | MANISHA WAGH |      60.3 |    3

(4 rows)
```

ALTER TABLE PRODUCT ADD (INV_DATE TIMESTAMP, AVAILABLE BOOLEAN);

ALTER TABLE PRODUCT ADD INV_DATE timestamp;

ALTER TABLE PRODUCT ADD AVAILABLE boolean;

```
token@cqlsh:employee> SELECT*FROM PRODUCT;

 id                                   | available | inv_date | name          | price     | quan
--------------------------------------+-----------+----------+---------------+-----------+------
 5a1f4e08-c437-4978-866d-36933194042e |      null |     null |  MITU VARDHAN |     14.44 |    2
 f01e6ade-fdb4-4ae5-8d41-1cfd1ad8db20 |      null |     null |    OM RAJMANE | 500.14001 |    5
 b1cb111f-d219-49d4-9662-a7a93657e4cc |      null |     null | SIMARAN PATIL |     20000 |    4
 46bc907c-3a4f-4528-aa3d-d574e993ffdd |      null |     null | MANISHA WAGH  |      60.3 |    3

(4 rows)
```

INSERT NEW ROWS:

INSERT INTO PRODUCT(ID, NAME, PRICE, QUAN, AVAILABLE, INV_DATE) VALUES(UUID(), 'PRATIKSHA KADAM', 690, 4,true, toTimestamp(now()));

INSERT INTO PRODUCT(ID, NAME, PRICE, QUAN, AVAILABLE, INV_DATE) VALUES(UUID(), 'BABU PATIL', 14.99, 4,false, toTimestamp(now()));

INSERT INTO PRODUCT(ID, NAME, PRICE, QUAN, AVAILABLE, INV_DATE) VALUES(UUID(), 'OM RAHANE', 14.99, 7,true, toTimestamp(now()));

```
token@cqlsh:employee> SELECT*FROM PRODUCT;

 id                                   | available | inv_date                        | name            | price     | quan
--------------------------------------+-----------+---------------------------------+-----------------+-----------+------
 5a1f4e08-c437-4978-866d-36933194042e |      null |                            null |    MITU VARDHAN |     14.44 |    2
 f01e6ade-fdb4-4ae5-8d41-1cfd1ad8db20 |      null |                            null |      OM RAJMANE | 500.14001 |    5
 b1cb111f-d219-49d4-9662-a7a93657e4cc |      null |                            null |   SIMARAN PATIL |     20000 |    4
 46bc907c-3a4f-4528-aa3d-d574e993ffdd |      null |                            null |    MANISHA WAGH |      60.3 |    3
 9558e91c-b7e8-4077-b8ff-41426722baf9 |      True | 2024-11-21 16:49:01.192000+0000 |       OM RAHANE |     14.99 |    7
 f3525fdc-510d-4418-bccb-334808258e2b |      True | 2024-11-21 16:47:05.622000+0000 | PRATIKSHA KADAM |       690 |    4
 0ff5d6ae-7ab0-4d78-b4be-3d572759e343 |     False | 2024-11-21 16:47:50.768000+0000 |      BABU PATIL |     14.99 |    4

(7 rows)
```

Problem Statement 2:

CREATE KEYSPACE : USER_PROFILE

use user_profile;

CREATE TABLE USERS (USER_ID UUID PRIMARY KEY, FIRST_NAME TEXT, LAST_NAME TEXT, EMAIL TEXT, AGE INT, CREATED_AT TIMESTAMP); **INSERT A FEW RECORDS INTO THE USERS TABLE:**

INSERT INTO USERS(USER_ID, FIRST_NAME, LAST_NAME, EMAIL, AGE, CREATED_AT) VALUES(UUID(), 'MARUTI', 'MANE', 'maruti@gamil.com', 50, toTimestamp(now()));

INSERT INTO USERS(USER_ID, FIRST_NAME, LAST_NAME, EMAIL, AGE, CREATED_AT) VALUES(UUID(), 'KALPANA', 'RAUT', 'kalpana@gamil.com', 35, toTimestamp(now()));

INSERT INTO USERS(USER_ID, FIRST_NAME, LAST_NAME, EMAIL, AGE, CREATED_AT) VALUES(UUID(), 'RAJESH', 'VARDHAN', rajesh@gamil.com', 28, toTimestamp(now()));

WRITE A CQL QUERY TO RETRIEVE ALL USERS FROM THE USERS TABLE. SELECT * FROM USERS;

```
token@cqlsh:user_profile> SELECT * FROM USERS;

 user_id                              | age | created_at                      | email              | first_name | last_name
--------------------------------------+-----+---------------------------------+--------------------+------------+-----------
 2d4d250e-aab5-4470-bf6d-fd62d20e3d89 |  35 | 2024-11-22 05:24:51.449000+0000 | kalpana@gamil.com  |    KALPANA |      RAUT
 b44e740b-80d4-4de7-89a5-b038af69634e |  28 | 2024-11-22 05:30:33.981000+0000 |  rajesh@gamil.com  |     RAJESH |   VARDHAN
 ecbacf34-5d25-4b25-8cf9-5b6c2bf420fb |  50 | 2024-11-22 05:24:02.543000+0000 |  maruti@gamil.com  |     MARUTI |      MANE
```

WRITE A QUERY TO FETCH A USER BY EMAIL.

SELECT USER_ID, FIRST_NAME, LAST_NAME FROM USERS WHERE EMAIL = 'maruti@gamil.com' ALLOW FILTERING;

```
token@cqlsh:user_profile> SELECT USER_ID, FIRST_NAME, LAST_NAME  FROM USERS  WHERE EMAIL = 'maruti@gamil.com' ALLOW FILTERING;

 user_id                              | first_name | last_name
--------------------------------------+------------+-----------
 ecbacf34-5d25-4b25-8cf9-5b6c2bf420fb |     MARUTI |      MANE

(1 rows)
```

UPDATE THE AGE OF A USER WITH A SPECIFIC EMAIL.

SELECT user_id FROM users WHERE email = 'maruti@gamil.com';

```
token@cqlsh:user_profile> SELECT user_id FROM users WHERE email = 'maruti@gamil.com';

 user_id
--------------------------------------
 ecbacf34-5d25-4b25-8cf9-5b6c2bf420fb

(1 rows)
```

UPDATE USERS SET AGE = 25 WHERE USER_ID = ecbacf34-5d25-4b25-8cf95b6c2bf420fb;

```
token@cqlsh:user_profile> SELECT *  FROM users WHERE email = 'maruti@gamil.com';

 user_id                              | age | created_at                      | email            | first_name | last_name
--------------------------------------+-----+---------------------------------+------------------+------------+----------
 ecbacf34-5d25-4b25-8cf9-5b6c2bf420fb |  25 | 2024-11-22 05:24:02.543000+0000 | maruti@gamil.com |     MARUTI |      MANE
```

DELETE A USER FROM THE TABLE USING THE USER_ID.

DELETE FROM USERS WHERE USER_ID = ecbacf34-5d25-4b25-8cf9-5b6c2bf420fb;

SELECT * FROM users;

```
token@cqlsh:user_profile> SELECT *  FROM users;

 user_id                              | age | created_at                      | email            | first_name | last_name
--------------------------------------+-----+---------------------------------+------------------+------------+----------
 2d4d250e-aab5-4470-bf6d-fd62d20e3d89 |  35 | 2024-11-22 05:24:51.449000+0000 | kalpana@gamil.com |    KALPANA |      RAUT
 b44e740b-80d4-4de7-89a5-b038af69634e |  28 | 2024-11-22 05:30:33.981000+0000 |  rajesh@gamil.com |     RAJESH |   VARDHAN

(2 rows)
```