Lab sheet 5

Do the following statements in Casandra and draft a report with screenshots and your own explanation wherever necessary.

To get a docker container with cassandra:

```
docker pull cassandra

docker run --name medtech-cassandra -d cassandra:latest


docker exec -it medtech-cassandra cqlsh
```

create a keyspace:

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

see all keyspaces:

```
describe keyspaces;
```

use the keyspace:

```
use mykeyspace ;
```

create table:

```
create table users( user_id int primary key, fname text, lname text);
```

show all tables in the keyspace:

```
describe tables;
```

insert values:

```
INSERT INTO users (user_id,  fname, lname) VALUES (1745, 'john', 'smith');
```

see inserted values:

```
select * from users;
```

read requests (see the results)

```
select * from users where user_id < 2000;
select * from users where user_id = 1745;
select * from users where lname = 'smith';
```

indexing columns:

```
CREATE INDEX ON users (lname);
SELECT * FROM users WHERE lname = 'smith';
```

Create a table with composite key :

```
CREATE TABLE tab2 (
    id1 int,
    id2 int,
    first_name varchar,
    last_name varchar,
    PRIMARY KEY (id1, id2));
```

Add a new column to the table:

```
ALTER TABLE users ADD telephone text;
```

Alter the value of a row:

```
UPDATE users SET telephone = '21212121' where user_id = 1745;
```

Empty a table:

```
TRUNCATE users;
```

Delete a table:

```
DROP table users;
```

Create a table with sets:

```
CREATE TABLE users (user_id int PRIMARY KEY, fname text, lname text,emails set<text>);
```

Insert values in a set:

```
INSERT INTO users (user_id, fname, lname, emails)VALUES(1234, 'Frodo', 'Baggins',
{'f@baggins.com', 'baggins@gmail.com'});
```

Add an element to a set:

```
UPDATE users SET emails = emails + {'fb@friendsofmordor.org'} WHERE user_id = 1234;
```

Extract email addresses:

```
SELECT user_id, emails FROM users WHERE user_id = 1234;
```

Delete an element from the set:

```
UPDATE users SET emails = emails - {'fb@friendsofmordor.org'} WHERE user_id = 1234;
```

To delete all elements:

```
UPDATE users SET emails = {} WHERE user_id = 1234;
```

or

```
DELETE emails FROM users WHERE user_id = 1234;
```

create a list:

```
ALTER TABLE users ADD top_places list<text>;
```

insert elements in the list:

```
UPDATE users SET top_places = [ 'rivendell', 'rohan' ] WHERE user_id = 1234;
```

to add a new element in the list:

```
UPDATE users SET top_places = top_places + [ 'mordor' ] WHERE user_id = 1234;
```

to insert an element at a given position (old value will be replaced):

```
UPDATE users SET top_places[1] = 'riddermark' WHERE user_id = 1234;
```

delete an element from the list, using its index:

```
DELETE top_places[2] FROM users WHERE user_id = 1234;
```

delete all elements with a given value:

```
UPDATE users SET top_places = top_places - ['riddermark'] WHERE user_id = 1234;
```

create a map:

```
 ALTER TABLE users ADD todo map<timestamp, text> ;
```

insert an element in the map:

```
UPDATE users   SET todo =   { '2012-9-24' : 'enter mordor', '2012-10-2 12:00' : 'throw ring into
mount doom', toTimestamp(now()): 'die!'}   WHERE user_id = 1234;
```

insert a specific element by id:

```
UPDATE users SET todo['2012-10-2 12:00'] = 'throw my precious into mount doom'   WHERE
user_id = 1234;
```

replace the whole map with insert:

```
INSERT INTO users (user_id,todo)   VALUES ( 1234, { '2013-9-22 12:01'  : 'birthday wishes to
Bilbo', '2013-10-1 18:00' : 'Check into Inn of Prancing Pony' });
```

delete an element in the map:

```
DELETE todo['2012-9-24'] FROM users WHERE user_id = 1234;
```