

=====Timestamp DATA TYPE=====

```
SELECT author_name, book_name,  
       writetime(book_name) FROM books_by_author;
```

we're not allowed to ask for the timestamp on primary key columns:

```
SELECT author_name, book_name,  
       writetime(author_name) FROM books_by_author;
```

===== UUID DATA TYPE=====

```
INSERT INTO books_by_author (author_name, publish_year, book_id, book_name, rating)  
VALUES('James Patterson',2017, uuid(),'Manning',4.0);
```

```
SELECT * FROM books_by_author  
WHERE author_name= 'James Patterson'
```

universally unique identifier (UUID) is a 128-bit value hexadecimal value.

===== SET DATA TYPE=====

The set data type stores a collection of elements. The elements are unordered, but cqlsh returns the elements in sorted order.

```
ALTER TABLE books_by_author  
ADD emails set<text>;
```

```
DESCRIBE TABLE books_by_author;
```

```
UPDATE books_by_author SET emails = {'james_patter@gmail.com'}  
WHERE author_name= 'James Patterson';
```

```
UPDATE books_by_author SET emails = emails + {'james_patterson123@gmail.com'}  
WHERE author_name= 'James Patterson';
```

```
UPDATE books_by_author SET emails = emails - {'james_patter@gmail.com'}  
WHERE author_name= 'James Patterson';
```

```
UPDATE books_by_author SET emails = {}  
WHERE author_name= 'James Patterson';
```

===== LIST DATA TYPE=====

The list data type contains an ordered list of elements. By default, the values are stored in order of insertion

```
ALTER TABLE books_by_author ADD  
  phone_numbers list<text>;
```

```
UPDATE books_by_author SET phone_numbers = [ '1-800-000-9999' ]  
  WHERE author_name= 'James Patterson';
```

```
UPDATE books_by_author SET phone_numbers = phone_numbers + [ '080-111-111-111' ]  
  WHERE author_name= 'James Patterson';
```

```
UPDATE books_by_author SET phone_numbers[1] = '480-111-1111'  
  WHERE author_name= 'James Patterson';
```

```
DELETE phone_numbers[0] from books_by_author  
  WHERE author_name= 'James Patterson';
```

===== MAP DATA TYPE =====

The map data type contains a collection of key/value pairs.

```
ALTER TABLE books_by_author ADD login_sessions map<timeuuid, int>;
```

timeuuid is unique identifier derived from the MAC address of the computer, the system time, and a sequence number to prevent duplicates. cqlsh provides several convenience functions for interacting with the timeuuid type: now(), dateOf() and unixTimestampOf().

```
UPDATE books_by_author SET login_sessions = { now(): 13, now(): 18}  
  WHERE author_name= 'James Patterson';
```