Updating Data

This lesson discusses how to use the Update clause in MySQL.

Updating Data

We can use the **UPDATE** statement to change the value of a column for a row or multiple rows.

Example Syntax

UPDATE **table**

SET **col1** = **val1**, **col2** = **val2**, ... **coln** = **valn**

WHERE **<condition>**

ORDER BY **col5**

LIMIT 5;

Connect to the terminal below by clicking in the widget. Once connected, the command line prompt will show up. Enter or copy-paste the command **./DataJek/Lessons/15lesson.sh** and wait for the mysql prompt to start-up.

```
-- The lesson queries are reproduced below for convenient copy/paste into the terminal.

-- Query 1
UPDATE Actors SET NetWorthInMillions=1;

-- Query 2
UPDATE Actors SET NetWorthInMillions=5 ORDER BY FirstName LIMIT 3;
```

```
--Query 3
UPDATE Actors SET NetWorthInMillions=50, MaritalStatus="Single";
```

1. Say Bernie Sanders wins the US Presidential elections and caps the maximum net worth for any individual to be no more than a million dollars. We'd want to update our Actors table in response because all the actors are now worth just one million dollars. The following query modifies the NetWorthInMillions column for all the rows in the table.

```
UPDATE Actors SET NetWorthInMillions=1;
```

```
mysql> SELECT * FROM Actors;
+----+-----------+------------+------------+--------+---------------+-------------------+
| Id | FirstName | SecondName | DoB        | Gender | MaritalStatus | NetWorthInMillions |
+----+-----------+------------+------------+--------+---------------+-------------------+
|  1 | Brad      | Pitt       | 1963-12-18 | Male   | Single        |               240 |
|  2 | Jennifer  | Aniston    | 1969-11-02 | Female | Single        |               240 |
|  3 | Angelina  | Jolie      | 1975-06-04 | Female | Single        |               100 |
|  4 | Johnny    | Depp       | 1963-06-09 | Male   | Single        |               200 |
|  5 | Natalie   | Portman    | 1981-06-09 | Male   | Married       |                60 |
|  6 | Tom       | Cruise     | 1962-07-03 | Male   | Divorced      |               570 |
|  7 | Kylie     | Jenner     | 1997-08-10 | Female | Married       |              1000 |
|  8 | Kim       | Kardashian | 1980-10-21 | Female | Married       |               370 |
|  9 | Amitabh   | Bachchan   | 1942-10-11 | Male   | Married       |               400 |
| 10 | Shahrukh  | Khan       | 1965-11-02 | Male   | Married       |               600 |
| 11 | priyanka  | Chopra     | 1982-07-18 | Female | Married       |                28 |
+----+-----------+------------+------------+--------+---------------+-------------------+
11 rows in set (0.00 sec)

mysql> UPDATE Actors SET NetWorthInMillions=1;
Query OK, 11 rows affected (0.00 sec)
Rows matched: 11  Changed: 11  Warnings: 0

mysql> SELECT * FROM Actors;
+----+-----------+------------+------------+--------+---------------+-------------------+
| Id | FirstName | SecondName | DoB        | Gender | MaritalStatus | NetWorthInMillions |
+----+-----------+------------+------------+--------+---------------+-------------------+
|  1 | Brad      | Pitt       | 1963-12-18 | Male   | Single        |                 1 |
|  2 | Jennifer  | Aniston    | 1969-11-02 | Female | Single        |                 1 |
|  3 | Angelina  | Jolie      | 1975-06-04 | Female | Single        |                 1 |
|  4 | Johnny    | Depp       | 1963-06-09 | Male   | Single        |                 1 |
|  5 | Natalie   | Portman    | 1981-06-09 | Male   | Married       |                 1 |
|  6 | Tom       | Cruise     | 1962-07-03 | Male   | Divorced      |                 1 |
|  7 | Kylie     | Jenner     | 1997-08-10 | Female | Married       |                 1 |
|  8 | Kim       | Kardashian | 1980-10-21 | Female | Married       |                 1 |
|  9 | Amitabh   | Bachchan   | 1942-10-11 | Male   | Married       |                 1 |
| 10 | Shahrukh  | Khan       | 1965-11-02 | Male   | Married       |                 1 |
| 11 | priyanka  | Chopra     | 1982-07-18 | Female | Married       |                 1 |
+----+-----------+------------+------------+--------+---------------+-------------------+
11 rows in set (0.00 sec)
```

2. We can use **LIMIT** and **ORDER BY** in conjunction to restrict the effects of the update statement. Say, we want to increase the net worth of the first three actors, sorted by first name, to five million dollars. We could achieve that as follows:

```
UPDATE Actors SET NetWorthInMillions=5 ORDER BY FirstName LIMIT 3
;
```

```
mysql> SELECT * FROM Actors ORDER BY FirstName;
+----+-----------+------------+------------+--------+---------------+--------------------+
| Id | FirstName | SecondName | DoB        | Gender | MaritalStatus | NetWorthInMillions |
+----+-----------+------------+------------+--------+---------------+--------------------+
|  9 | Amitabh   | Bachchan   | 1942-10-11 | Male   | Married       |                  1 |
|  3 | Angelina  | Jolie      | 1975-06-04 | Female | Single        |                  1 |
|  1 | Brad      | Pitt       | 1963-12-18 | Male   | Single        |                  1 |
|  2 | Jennifer  | Aniston    | 1969-11-02 | Female | Single        |                  1 |
|  4 | Johnny    | Depp       | 1963-06-09 | Male   | Single        |                  1 |
|  8 | Kim       | Kardashian | 1980-10-21 | Female | Married       |                  1 |
|  7 | Kylie     | Jenner     | 1997-08-10 | Female | Married       |                  1 |
|  5 | Natalie   | Portman    | 1981-06-09 | Male   | Married       |                  1 |
| 11 | priyanka  | Chopra     | 1982-07-18 | Female | Married       |                  1 |
| 10 | Shahrukh  | Khan       | 1965-11-02 | Male   | Married       |                  1 |
|  6 | Tom       | Cruise     | 1962-07-03 | Male   | Divorced      |                  1 |
+----+-----------+------------+------------+--------+---------------+--------------------+
11 rows in set (0.00 sec)

mysql> UPDATE Actors SET NetWorthInMillions=5 ORDER BY FirstName LIMIT 3;
Query OK, 3 rows affected (0.01 sec)
Rows matched: 3  Changed: 3  Warnings: 0

mysql> SELECT * FROM Actors ORDER BY FirstName;
+----+-----------+------------+------------+--------+---------------+--------------------+
| Id | FirstName | SecondName | DoB        | Gender | MaritalStatus | NetWorthInMillions |
+----+-----------+------------+------------+--------+---------------+--------------------+
|  9 | Amitabh   | Bachchan   | 1942-10-11 | Male   | Married       |                  5 |
|  3 | Angelina  | Jolie      | 1975-06-04 | Female | Single        |                  5 |
|  1 | Brad      | Pitt       | 1963-12-18 | Male   | Single        |                  5 |
|  2 | Jennifer  | Aniston    | 1969-11-02 | Female | Single        |                  1 |
|  4 | Johnny    | Depp       | 1963-06-09 | Male   | Single        |                  1 |
|  8 | Kim       | Kardashian | 1980-10-21 | Female | Married       |                  1 |
|  7 | Kylie     | Jenner     | 1997-08-10 | Female | Married       |                  1 |
|  5 | Natalie   | Portman    | 1981-06-09 | Male   | Married       |                  1 |
| 11 | priyanka  | Chopra     | 1982-07-18 | Female | Married       |                  1 |
| 10 | Shahrukh  | Khan       | 1965-11-02 | Male   | Married       |                  1 |
|  6 | Tom       | Cruise     | 1962-07-03 | Male   | Divorced      |                  1 |
+----+-----------+------------+------------+--------+---------------+--------------------+
11 rows in set (0.00 sec)
```

3. The **UPDATE** statement has two parts. The matching phase and then the modification phase. In the first phase the row/rows that match the query are determined and in the second phase the changes are applied. If we re-execute the update query from the previous step, the count of the number of rows matched will be three but the row count for changes will be zero.

```
mysql> SELECT * FROM Actors ORDER BY FirstName;
+----+-----------+------------+------------+--------+---------------+-------------------+
| Id | FirstName | SecondName | DoB        | Gender | MaritalStatus | NetWorthInMillions |
+----+-----------+------------+------------+--------+---------------+-------------------+
|  9 | Amitabh   | Bachchan   | 1942-10-11 | Male   | Married       |                 5 |
|  3 | Angelina  | Jolie      | 1975-06-04 | Female | Single        |                 5 |
|  1 | Brad      | Pitt       | 1963-12-18 | Male   | Single        |                 5 |
|  2 | Jennifer  | Aniston    | 1969-11-02 | Female | Single        |                 1 |
|  4 | Johnny    | Depp       | 1963-06-09 | Male   | Single        |                 1 |
|  8 | Kim       | Kardashian | 1980-10-21 | Female | Married       |                 1 |
|  7 | Kylie     | Jenner     | 1997-08-10 | Female | Married       |                 1 |
|  5 | Natalie   | Portman    | 1981-06-09 | Male   | Married       |                 1 |
| 11 | priyanka  | Chopra     | 1982-07-18 | Female | Married       |                 1 |
| 10 | Shahrukh  | Khan       | 1965-11-02 | Male   | Married       |                 1 |
|  6 | Tom       | Cruise     | 1962-07-03 | Male   | Divorced      |                 1 |
+----+-----------+------------+------------+--------+---------------+-------------------+
11 rows in set (0.00 sec)

mysql> UPDATE Actors SET NetWorthInMillions=5 ORDER BY FirstName LIMIT 3;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 3  Changed: 0  Warnings: 0
```

4. Lastly, we can update multiple columns in an **UPDATE** statement. Say we want to give all the actors fifty million dollars and make them single, we can do so in a single **UPDATE** statement.

```
UPDATE Actors SET NetWorthInMillions=50, MaritalStatus="Single";
```

```
mysql> SELECT * FROM Actors;
+----+-----------+------------+------------+--------+---------------+-------------------+
| Id | FirstName | SecondName | DoB        | Gender | MaritalStatus | NetWorthInMillions |
+----+-----------+------------+------------+--------+---------------+-------------------+
|  1 | Brad      | Pitt       | 1963-12-18 | Male   | Single        |                 5 |
|  2 | Jennifer  | Aniston    | 1969-11-02 | Female | Single        |                 1 |
|  3 | Angelina  | Jolie      | 1975-06-04 | Female | Single        |                 5 |
|  4 | Johnny    | Depp       | 1963-06-09 | Male   | Single        |                 1 |
|  5 | Natalie   | Portman    | 1981-06-09 | Male   | Married       |                 1 |
|  6 | Tom       | Cruise     | 1962-07-03 | Male   | Divorced      |                 1 |
|  7 | Kylie     | Jenner     | 1997-08-10 | Female | Married       |                 1 |
|  8 | Kim       | Kardashian | 1980-10-21 | Female | Married       |                 1 |
|  9 | Amitabh   | Bachchan   | 1942-10-11 | Male   | Married       |                 5 |
| 10 | Shahrukh  | Khan       | 1965-11-02 | Male   | Married       |                 1 |
| 11 | priyanka  | Chopra     | 1982-07-18 | Female | Married       |                 1 |
+----+-----------+------------+------------+--------+---------------+-------------------+
11 rows in set (0.00 sec)

mysql> UPDATE Actors SET NetWorthInMillions=50, MaritalStatus="Single";
Query OK, 11 rows affected (0.00 sec)
Rows matched: 11  Changed: 11  Warnings: 0

mysql> SELECT * FROM Actors;
+----+-----------+------------+------------+--------+---------------+-------------------+
| Id | FirstName | SecondName | DoB        | Gender | MaritalStatus | NetWorthInMillions |
+----+-----------+------------+------------+--------+---------------+-------------------+
|  1 | Brad      | Pitt       | 1963-12-18 | Male   | Single        |                50 |
|  2 | Jennifer  | Aniston    | 1969-11-02 | Female | Single        |                50 |
|  3 | Angelina  | Jolie      | 1975-06-04 | Female | Single        |                50 |
|  4 | Johnny    | Depp       | 1963-06-09 | Male   | Single        |                50 |
|  5 | Natalie   | Portman    | 1981-06-09 | Male   | Single        |                50 |
|  6 | Tom       | Cruise     | 1962-07-03 | Male   | Single        |                50 |
|  7 | Kylie     | Jenner     | 1997-08-10 | Female | Single        |                50 |
|  8 | Kim       | Kardashian | 1980-10-21 | Female | Single        |                50 |
|  9 | Amitabh   | Bachchan   | 1942-10-11 | Male   | Single        |                50 |
| 10 | Shahrukh  | Khan       | 1965-11-02 | Male   | Single        |                50 |
| 11 | priyanka  | Chopra     | 1982-07-18 | Female | Single        |                50 |
+----+-----------+------------+------------+--------+---------------+-------------------+
11 rows in set (0.00 sec)
```