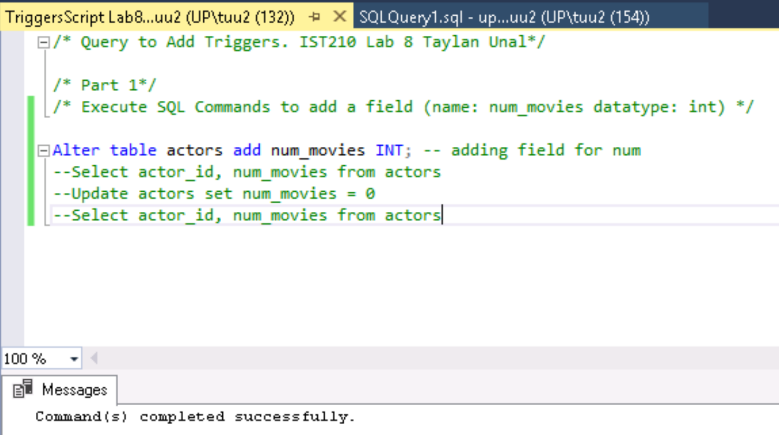
**PART 1**

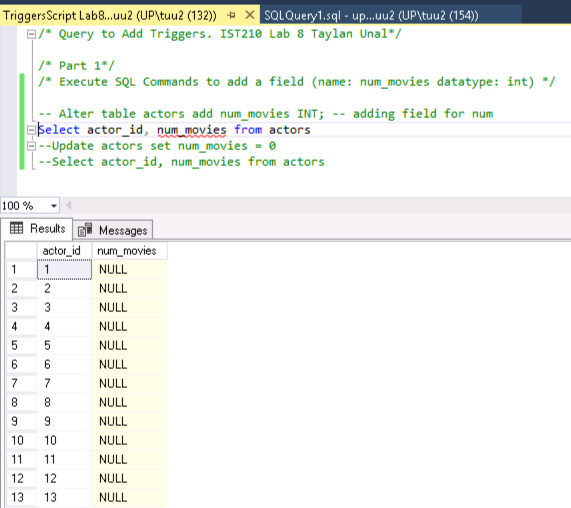
Write and execute the proper SQL commands to add a field (name: num\_movies datatype: int) to the ACTORS table. You will also need to initialize the field value to zero for all existing records in the ACTORS table. (See the [w3 schools page](https://www.w3schools.com/sql/sql_alter.asp) for help with adding a field to an existing table).

Commands for SQL:

1. *Alter table Actors add num\_movies INT*

*Command(s) completed successfully.*

1. *Select actor\_id, num\_movies from actors*

actor\_id num\_movies

----------- -----------

1 NULL 10 NULL

2 NULL 11 NULL

3 NULL 12 NULL

4 NULL 13 NULL

5 NULL

6 NULL

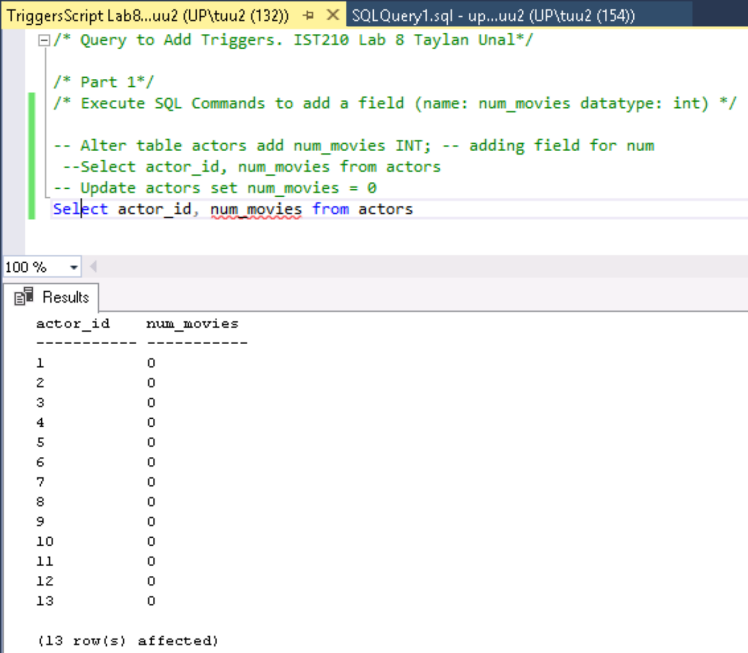
7 NULL

8 NULL

9 NULL

(13 row(s) affected)

1. ***Update actors set num\_movies = 0***
2. *row(s) affected)*
3. ***Select actor\_id, num\_movies from actors***

 actor\_id num\_movies

----------- -----------

1 0

2 0

3 0

4 0

5 0

6 0

7 0

8 0

9 0

10 0

11 0

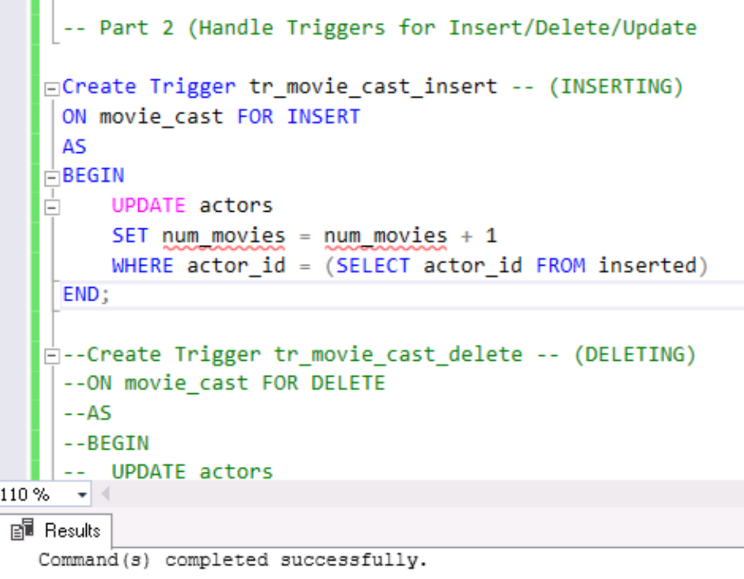
12 0

13 0

(13 row(s) affected)

**PART 2**

Create three triggers for each of the events... INSERT, UPDATE, DELETE. The trigger will either add, subtract or add/subtract the occurrence of the event.

Create Trigger tr\_movie\_cast\_insert -- (**INSERTING**)

ON movie\_cast FOR INSERT

AS

BEGIN

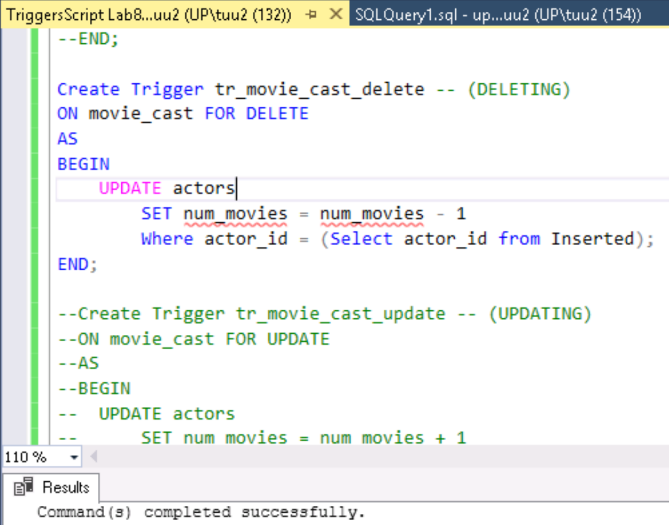
UPDATE actors

SET num\_movies = num\_movies + 1

WHERE actor\_id = (SELECT actor\_id FROM inserted)

END;

*Command(s) completed successfully.*

**Create Trigger tr\_movie\_cast\_delete -- (**DELETING**)

ON movie\_cast FOR DELETE

AS

BEGIN

UPDATE actors

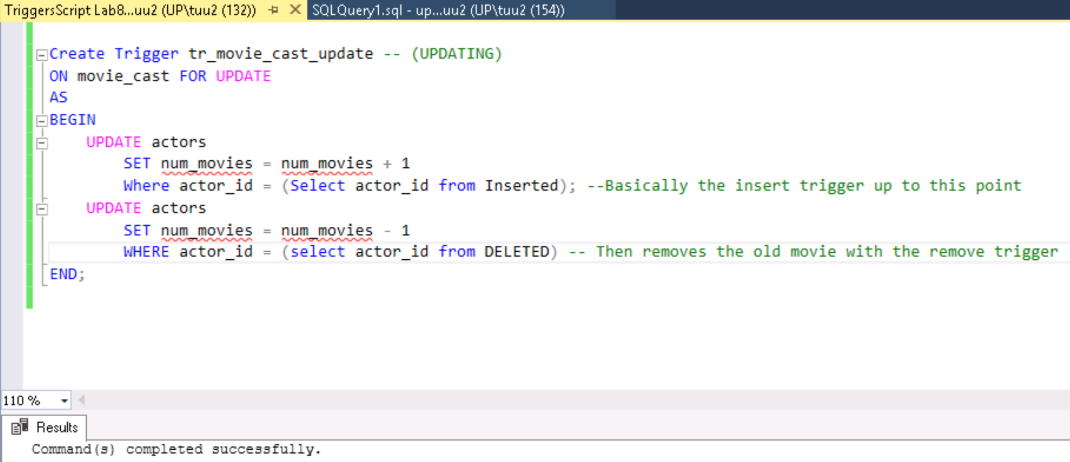
SET num\_movies = num\_movies - 1

Where actor\_id = (Select actor\_id from Inserted);

END;

*Command(s) completed successfully.*

Create Trigger tr\_movie\_cast\_update -- (**UPDATING**)

ON movie\_cast FOR UPDATE

AS

BEGIN

UPDATE actors

SET num\_movies = num\_movies + 1

Where actor\_id = (Select actor\_id from Inserted); --Basically the insert trigger up to this point

UPDATE actors

SET num\_movies = num\_movies - 1

WHERE actor\_id = (select actor\_id from DELETED) – Basically uses remove trigger

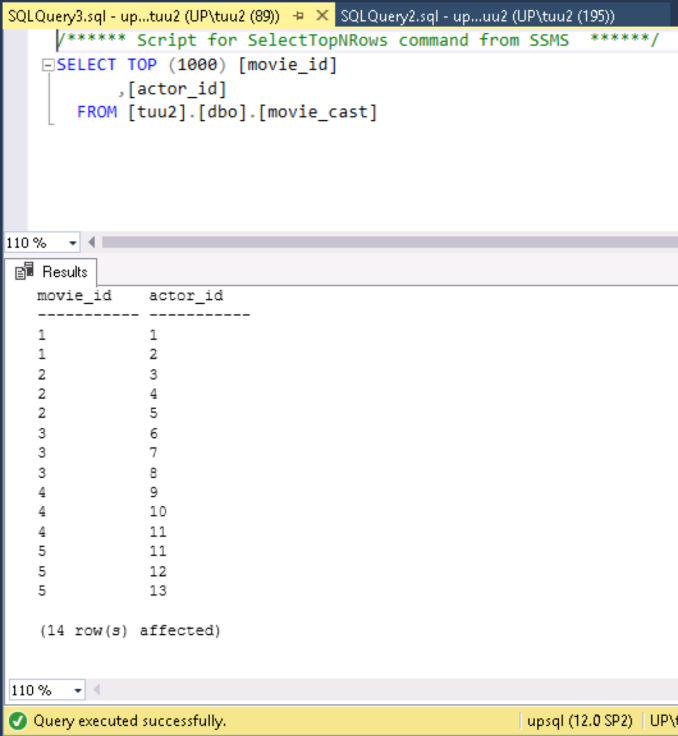
END;

*Command(s) completed successfully.*

**PART 3**

Write and execute SQL commands to test the three events. You need to show the value of num\_movies with a SELECT statement before the event and then after the event.

**Before any insertions/updates/deletions:**

actor\_id    num\_movies

----------- -----------

1           0

2           0

3           0

4           0

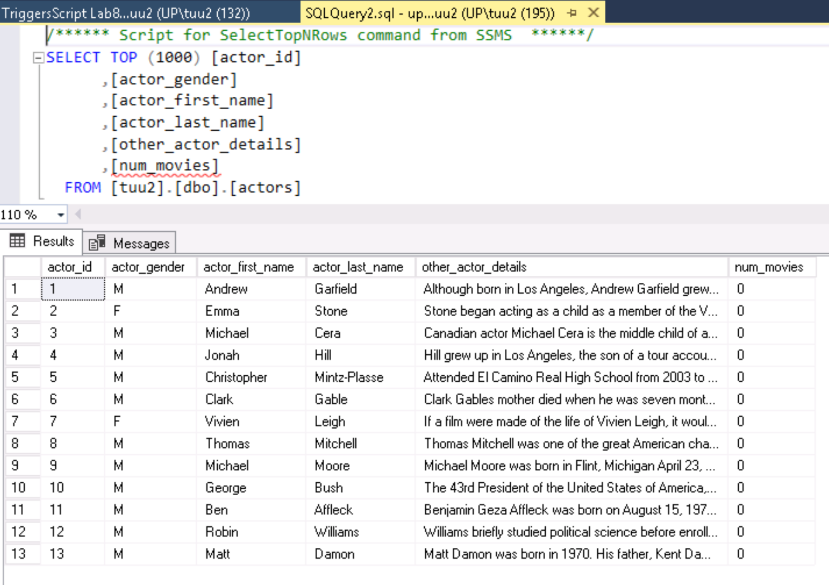
5           0

6           0

7           0

8           0

9           0

10          0

11          0

12          0

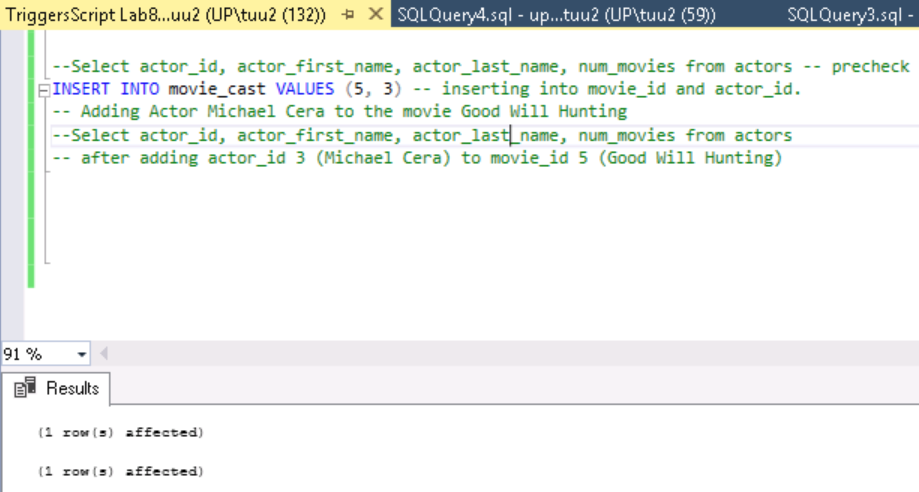
13          0

(13 row(s) affected)

Testing Insertion Trigger:

INSERT INTO movie\_cast VALUES (5, 3) -- inserting into movie\_id and actor\_id.

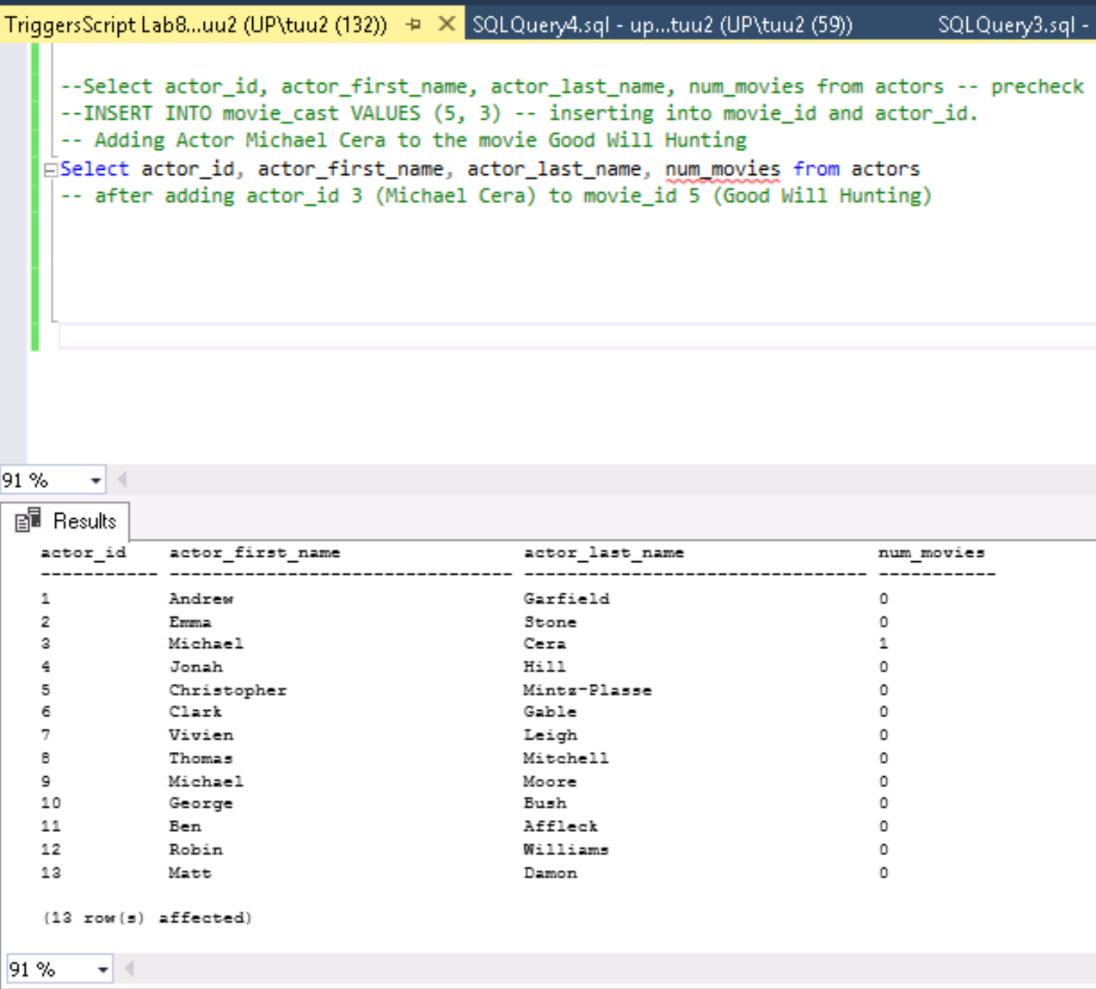
(Adding actor Michael Cera to the movie Good Will Hunting)



*(1 row(s) affected)*

*(1 row(s) affected)*

Select actor\_id, actor\_first\_name, actor\_last\_name, num\_movies from actors

**(Michael Cera’s num\_movies was updated by adding one to num movies after insert trigger)

actor\_id    actor\_first\_name                 actor\_last\_name                  num\_movies

----------- -------------------------------- -------------------------------- -----------

1           Andrew                           Garfield                         0

2           Emma                             Stone                            0

3           Michael                          Cera                             1

4           Jonah                            Hill                             0

5           Christopher                      Mintz-Plasse                     0

6           Clark                            Gable                            0

7           Vivien                           Leigh                            0

8           Thomas                           Mitchell                         0

9           Michael                          Moore                            0

10          George                           Bush                             0

11          Ben                              Affleck                          0

12          Robin                            Williams                         0

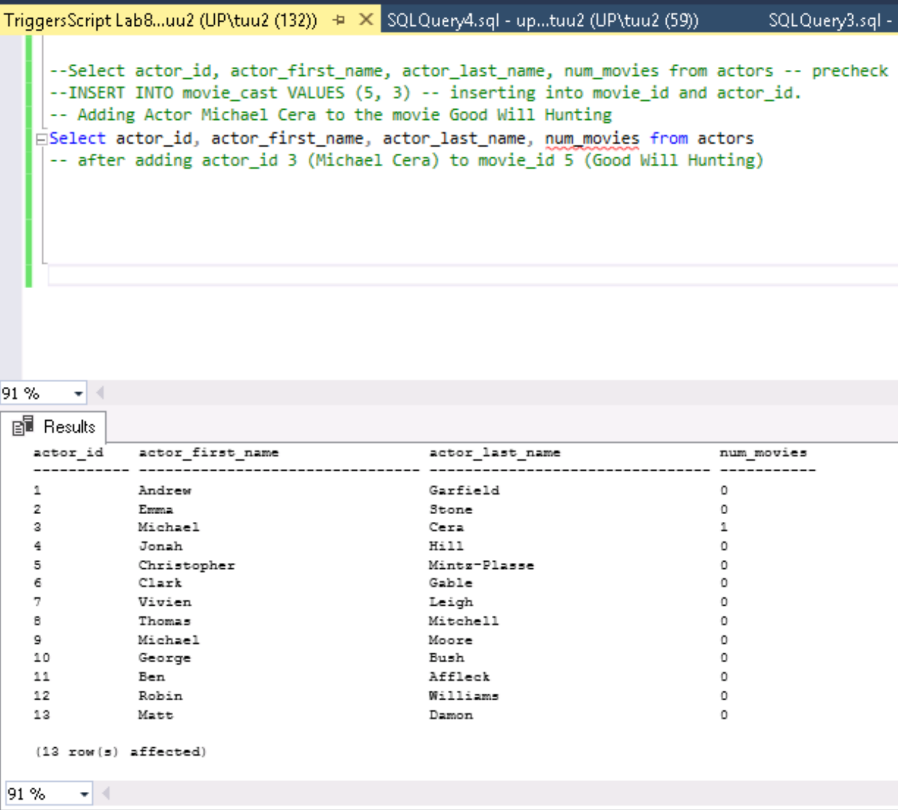
13          Matt                             Damon                            0

(13 row(s) affected)

Testing Delete Trigger:

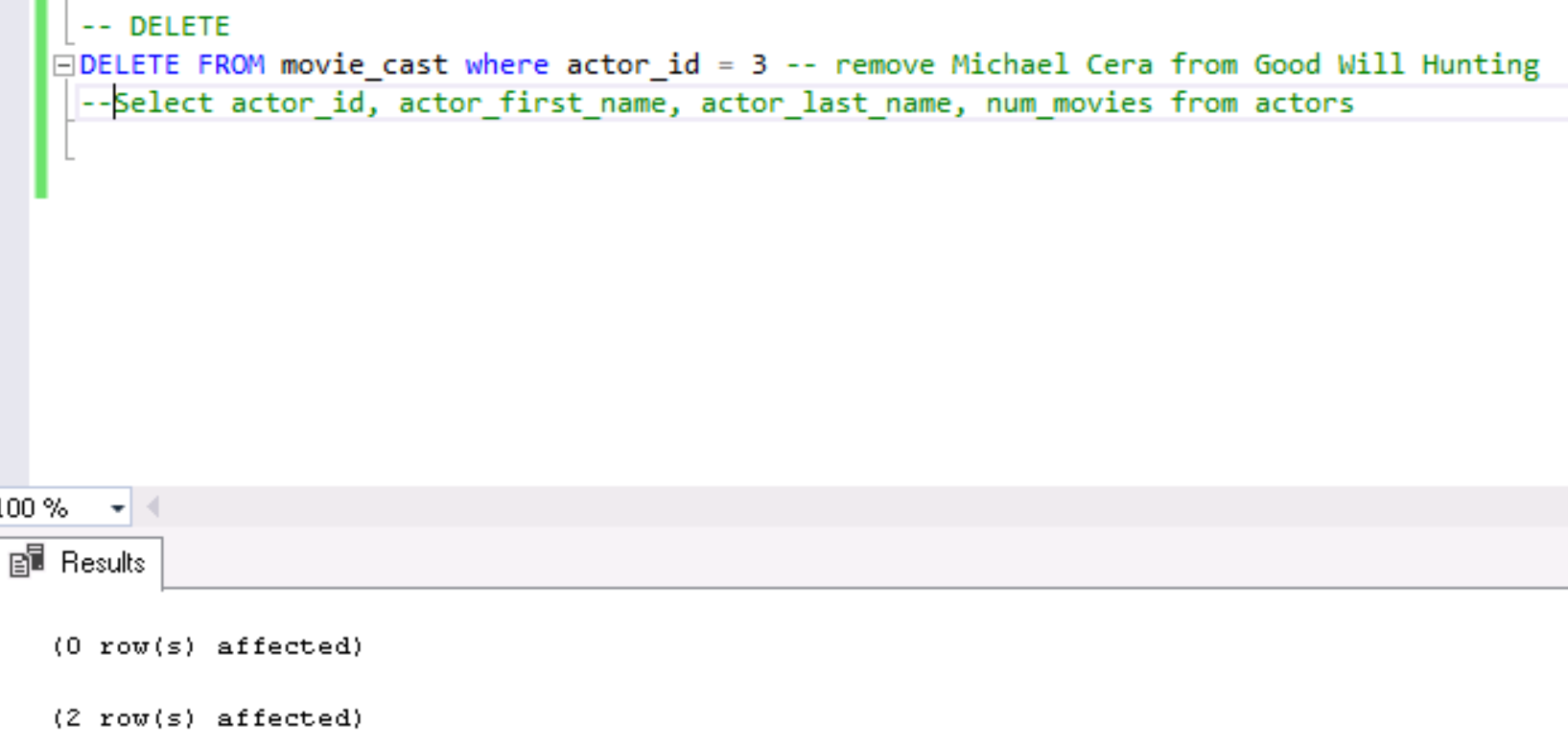
Before deleting any values:

(Michael Cera remains with one movie under num\_movies)

**

DELETE FROM movie\_cast where actor\_id = 3 and movie\_id = 5

(Remembering that Matt Damon played an great role in Good Will Hunting so remove Michael Cera)

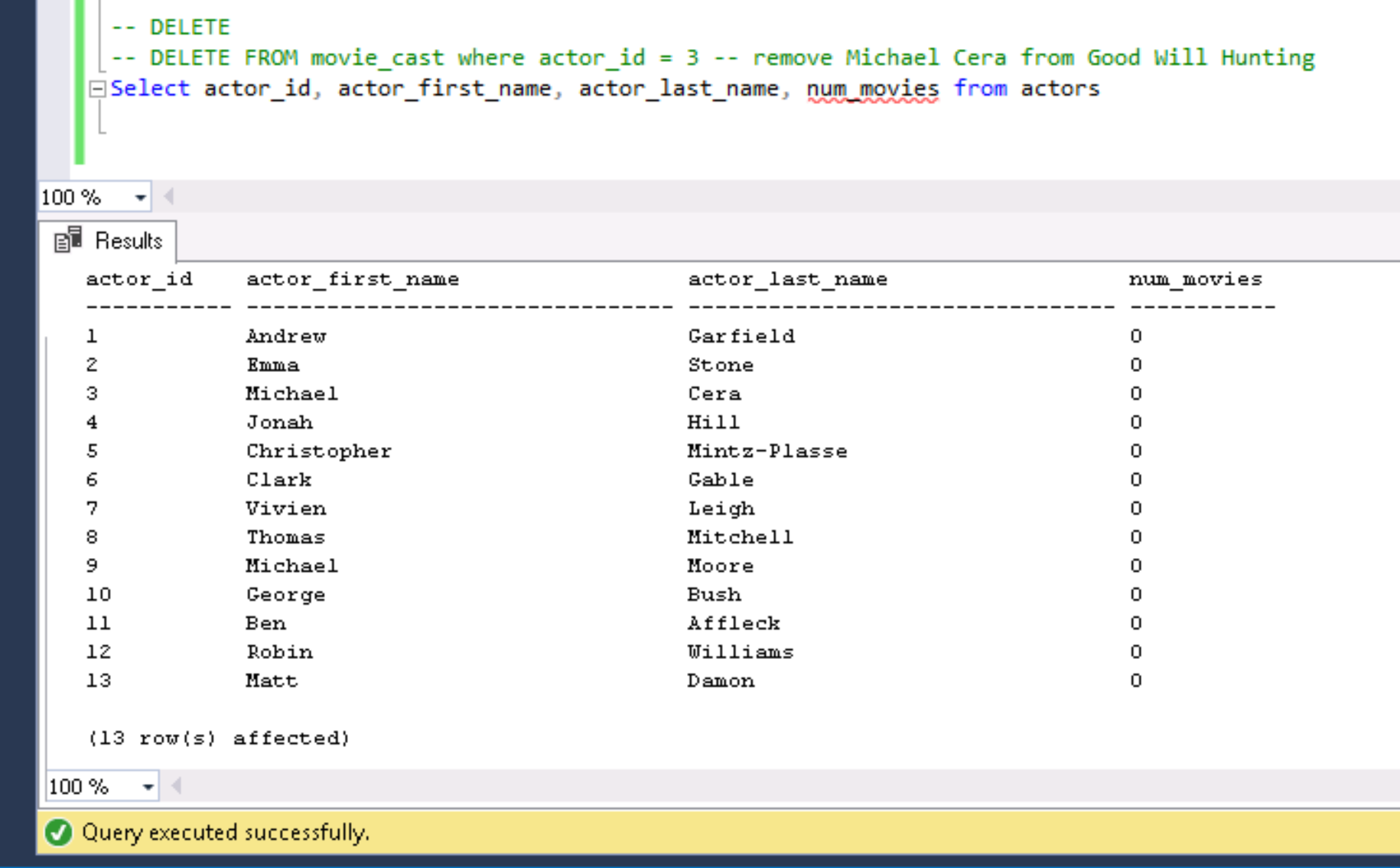


*(0 row(s) affected)*

*(2 row(s) affected)*

Select actor\_id, actor\_first\_name, actor\_last\_name, num\_movies from actors

(make sure that Michael Cera is back to zero for num\_movies)



actor\_id    actor\_first\_name                 actor\_last\_name                  num\_movies

----------- -------------------------------- -------------------------------- -----------

1           Andrew                           Garfield                         0

2           Emma                             Stone                            0

3           Michael                          Cera                             0

4           Jonah                            Hill                             0

5           Christopher                      Mintz-Plasse                     0

6           Clark                            Gable                            0

7           Vivien                           Leigh                            0

8           Thomas                           Mitchell                         0

9           Michael                          Moore                            0

10          George                           Bush                             0

11          Ben                              Affleck                          0

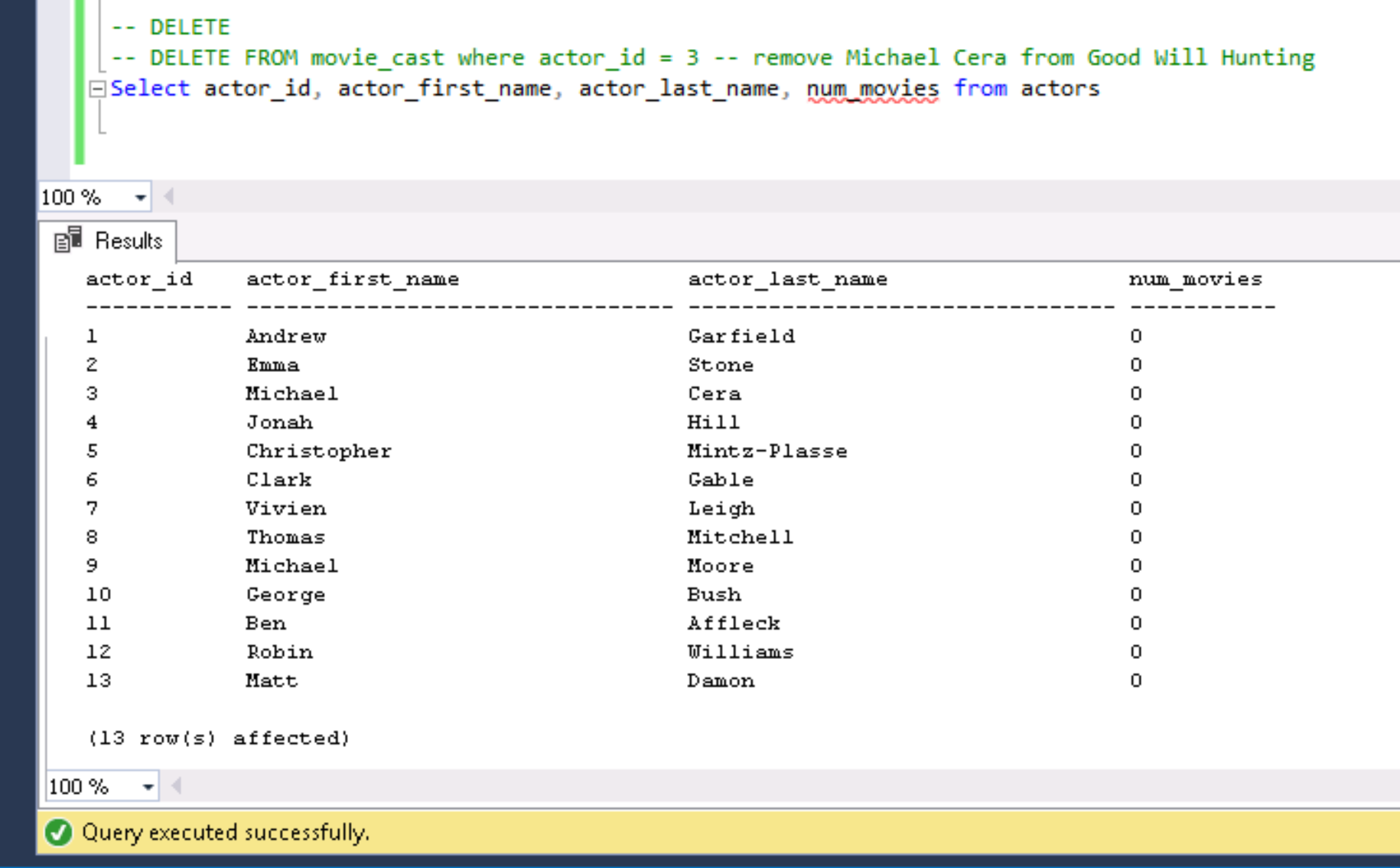
12          Robin                            Williams                         0

13          Matt                             Damon                            0

(13 row(s) affected)

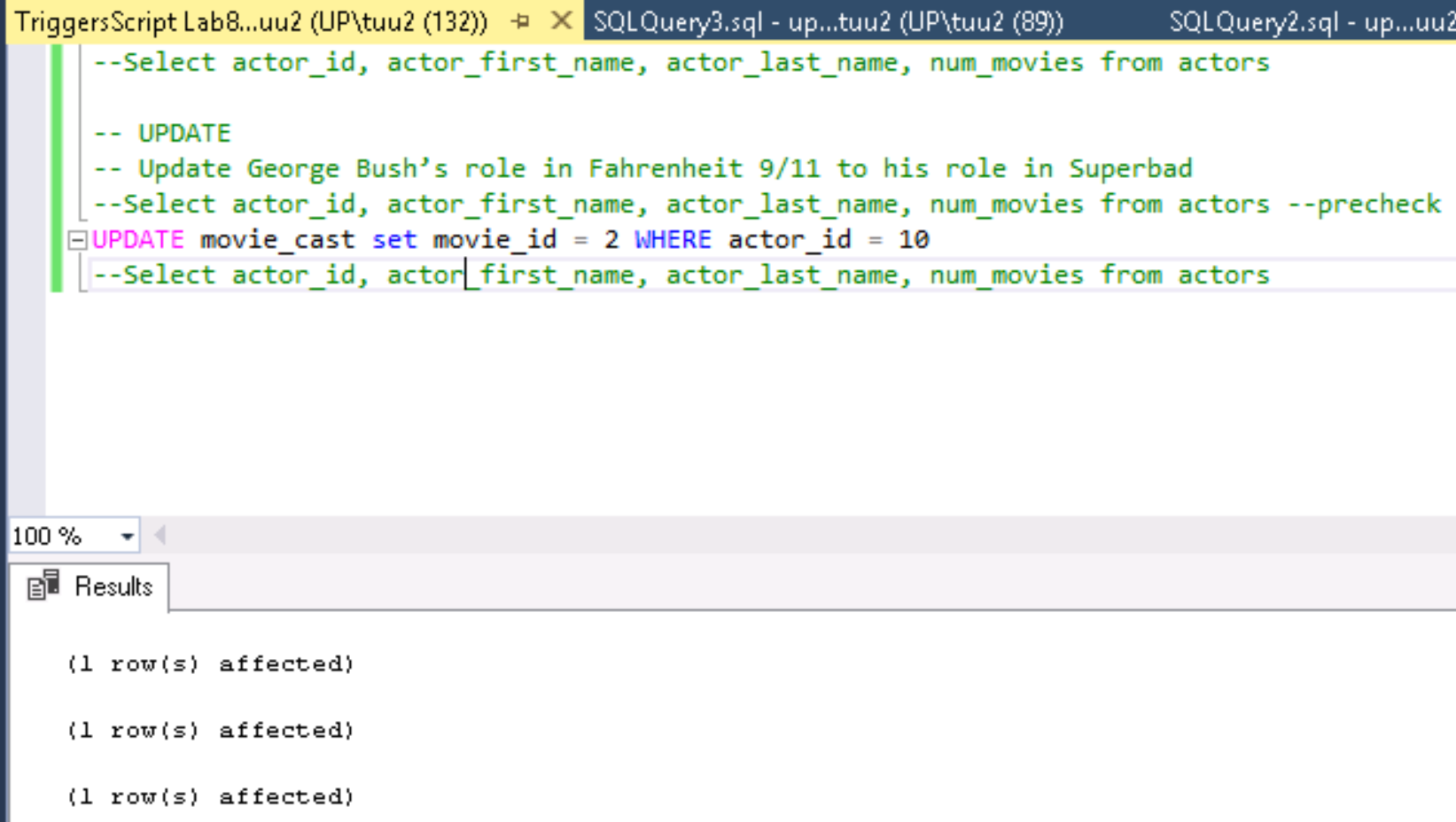
Testing Update Trigger:

Before updating any values:



UPDATE movie\_cast set movie\_id = 2 WHERE actor\_id = 10

(Update George Bush’s role in Fahrenheit 9/11 to his role in Superbad)



*(1 row(s) affected)*

*(1 row(s) affected)*

*(1 row(s) affected)*