DAY - 1 MySQL TASK

EXERCISE : 1

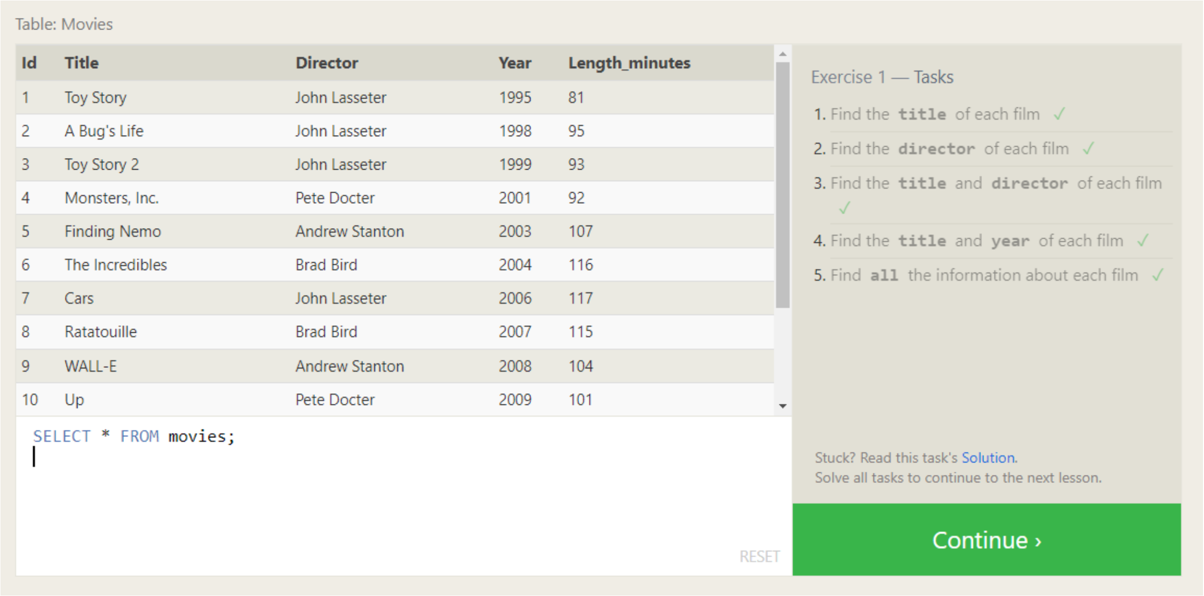

Table: Movies

Id	Title	Director	Year	Length_minutes
1	Toy Story	John Lasseter	1995	81
2	A Bug's Life	John Lasseter	1998	95
3	Toy Story 2	John Lasseter	1999	93
4	Monsters, Inc.	Pete Docter	2001	92
5	Finding Nemo	Andrew Stanton	2003	107
6	The Incredibles	Brad Bird	2004	116
7	Cars	John Lasseter	2006	117
8	Ratatouille	Brad Bird	2007	115
9	WALL-E	Andrew Stanton	2008	104
10	Up	Pete Docter	2009	101

```
SELECT * FROM movies;
```

Exercise 1 — Tasks

1. Find the **title** of each film ✓
2. Find the **director** of each film ✓
3. Find the **title** and **director** of each film ✓
4. Find the **title** and **year** of each film ✓
5. Find **all** the information about each film ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

EXERCISE: 2

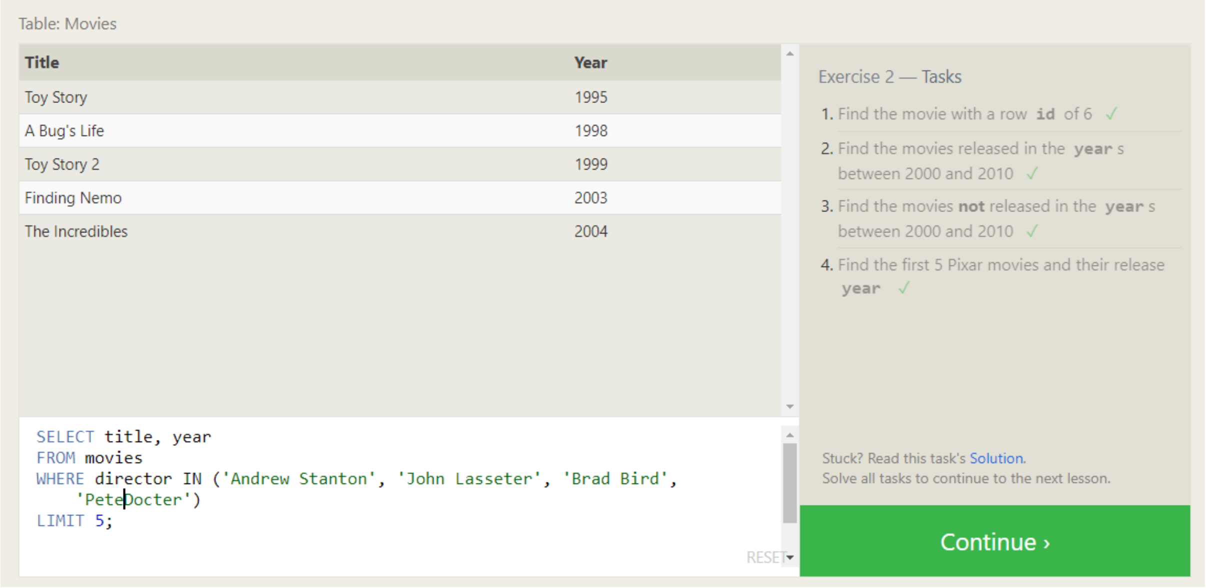

Table: Movies

Title	Year
Toy Story	1995
A Bug's Life	1998
Toy Story 2	1999
Finding Nemo	2003
The Incredibles	2004

```
SELECT title, year
FROM movies
WHERE director IN ('Andrew Stanton', 'John Lasseter', 'Brad Bird',
    'PeteDocter')
LIMIT 5;
```

Exercise 2 — Tasks

1. Find the movie with a row **id** of 6 ✓
2. Find the movies released in the **year** s between 2000 and 2010 ✓
3. Find the movies **not** released in the **year** s between 2000 and 2010 ✓
4. Find the first 5 Pixar movies and their release **year** ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

EXERCISE: 3

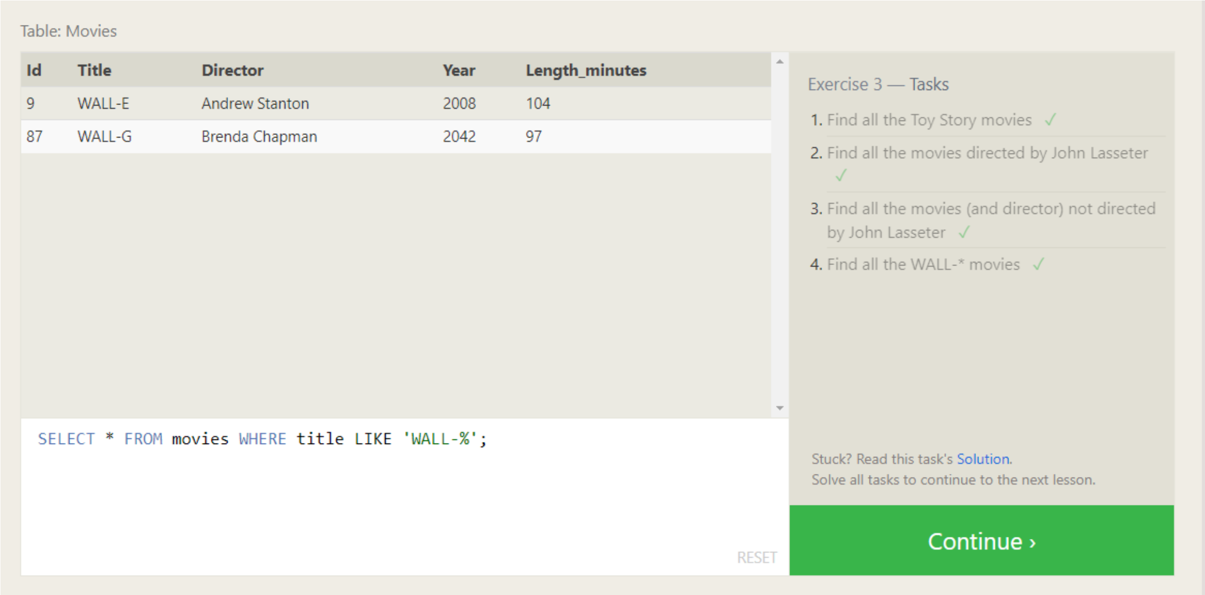

Table: Movies

Id	Title	Director	Year	Length_minutes
9	WALL-E	Andrew Stanton	2008	104
87	WALL-G	Brenda Chapman	2042	97

```
SELECT * FROM movies WHERE title LIKE 'WALL-%';
```

Exercise 3 — Tasks

1. Find all the Toy Story movies ✓
2. Find all the movies directed by John Lasseter ✓
3. Find all the movies (and director) not directed by John Lasseter ✓
4. Find all the WALL-* movies ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

EXERCISE: 4

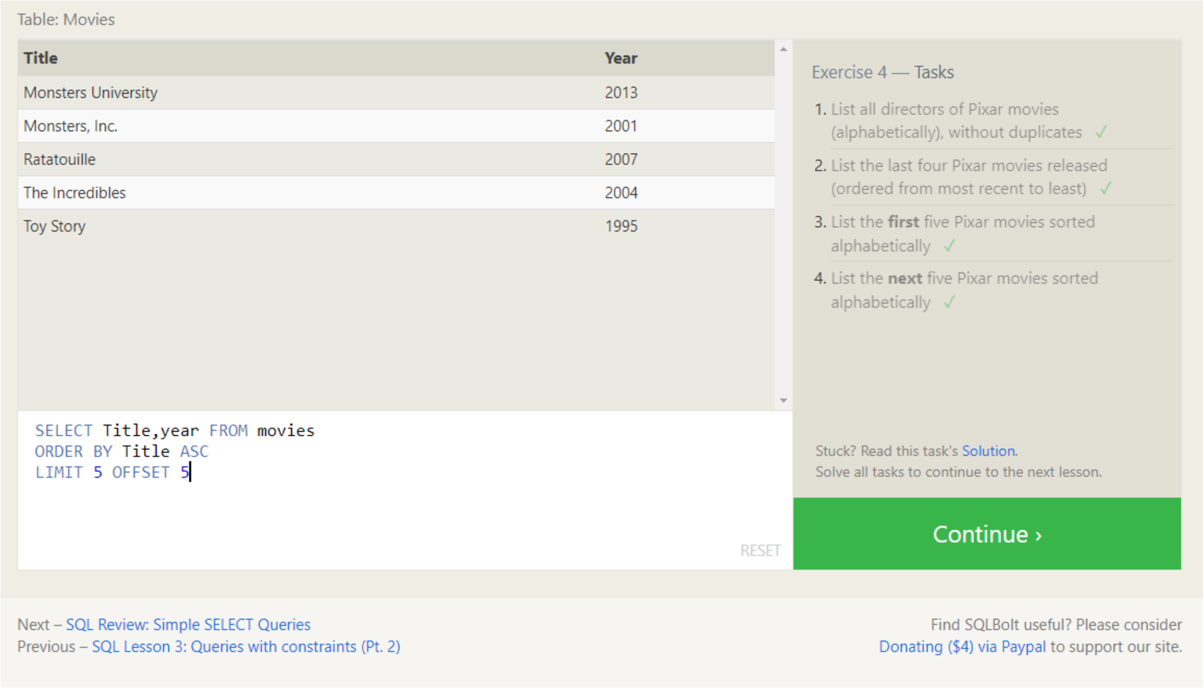

Table: Movies

Title	Year
Monsters University	2013
Monsters, Inc.	2001
Ratatouille	2007
The Incredibles	2004
Toy Story	1995

```
SELECT Title,year FROM movies
ORDER BY Title ASC
LIMIT 5 OFFSET 5
```

Exercise 4 — Tasks

1. List all directors of Pixar movies (alphabetically), without duplicates ✓
2. List the last four Pixar movies released (ordered from most recent to least) ✓
3. List the **first** five Pixar movies sorted alphabetically ✓
4. List the **next** five Pixar movies sorted alphabetically ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Review: Simple SELECT Queries
Previous – SQL Lesson 3: Queries with constraints (Pt. 2)

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EXERCISE: 5

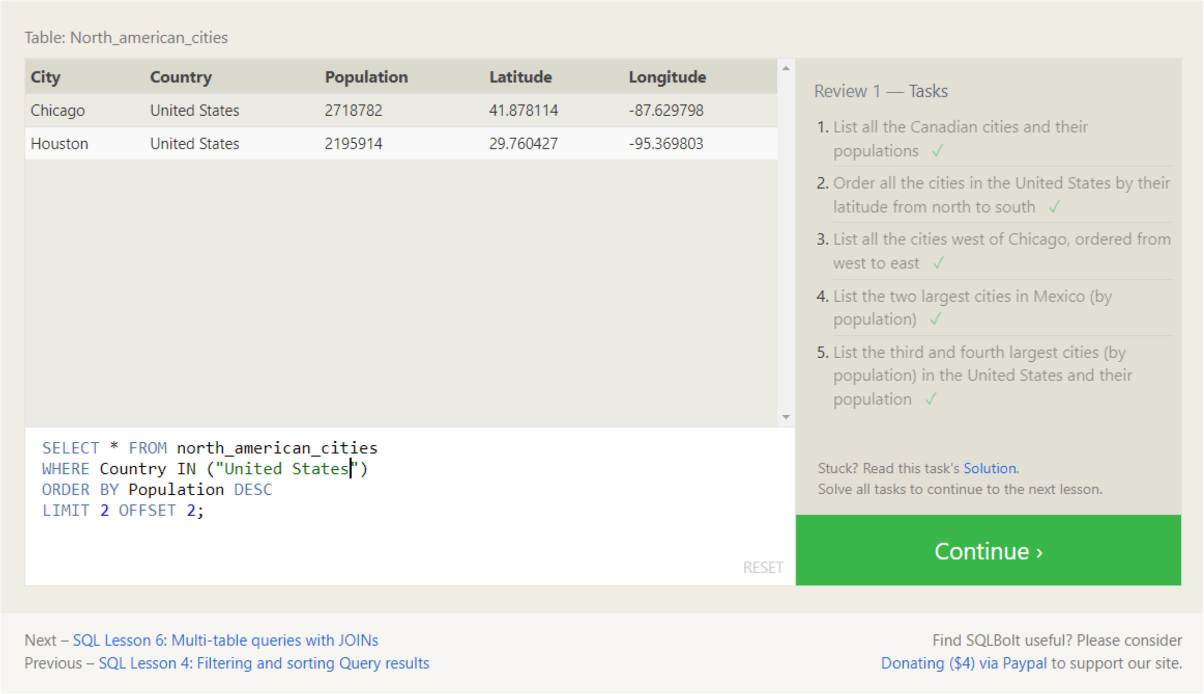

Table: North_american_cities

City	Country	Population	Latitude	Longitude
Chicago	United States	2718782	41.878114	-87.629798
Houston	United States	2195914	29.760427	-95.369803

```
SELECT * FROM north_american_cities
WHERE Country IN ("United States")
ORDER BY Population DESC
LIMIT 2 OFFSET 2;
```

Review 1 — Tasks

1. List all the Canadian cities and their populations ✓
2. Order all the cities in the United States by their latitude from north to south ✓
3. List all the cities west of Chicago, ordered from west to east ✓
4. List the two largest cities in Mexico (by population) ✓
5. List the third and fourth largest cities (by population) in the United States and their population ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 6: Multi-table queries with JOINs
Previous – SQL Lesson 4: Filtering and sorting Query results

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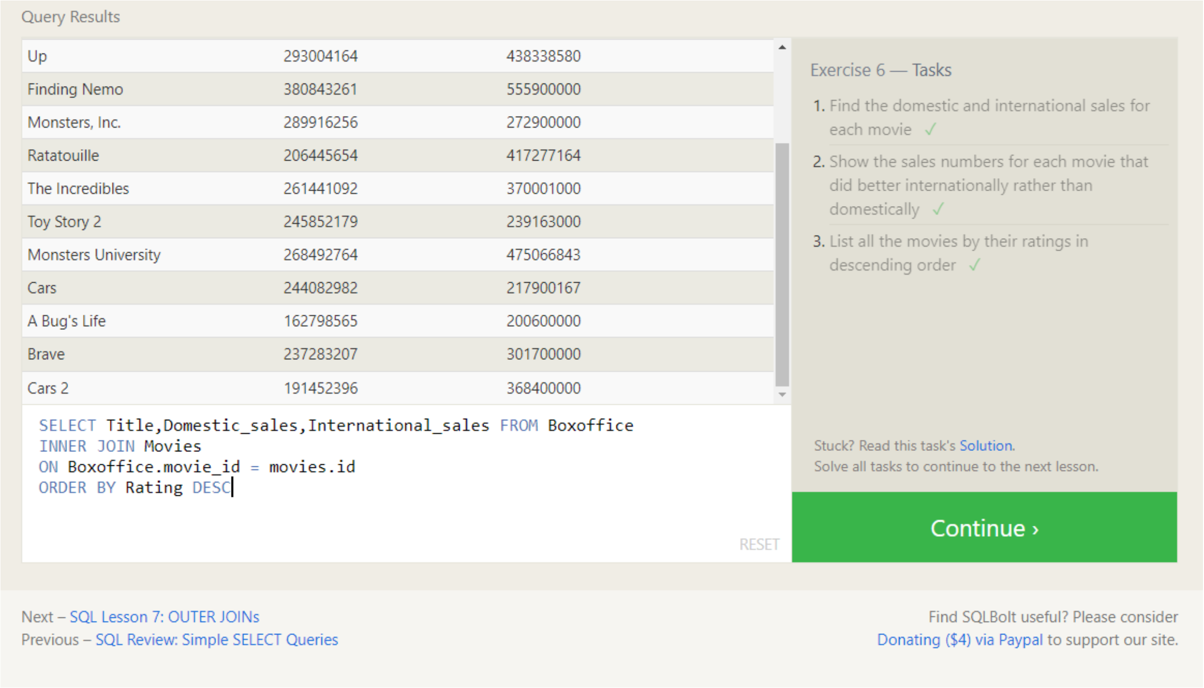
EXERCISE: 6



Query Results

Up	293004164	438338580
Finding Nemo	380843261	555900000
Monsters, Inc.	289916256	272900000
Ratatouille	206445654	417277164
The Incredibles	261441092	370001000
Toy Story 2	245852179	239163000
Monsters University	268492764	475066843
Cars	244082982	217900167
A Bug's Life	162798565	200600000
Brave	237283207	301700000
Cars 2	191452396	368400000

```
SELECT Title,Domestic_sales,International_sales FROM Boxoffice
INNER JOIN Movies
ON Boxoffice.movie_id = movies.id
ORDER BY Rating DESC
```

Exercise 6 — Tasks

1. Find the domestic and international sales for each movie ✓
2. Show the sales numbers for each movie that did better internationally rather than domestically ✓
3. List all the movies by their ratings in descending order ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 7: OUTER JOINs
Previous – SQL Review: Simple SELECT Queries

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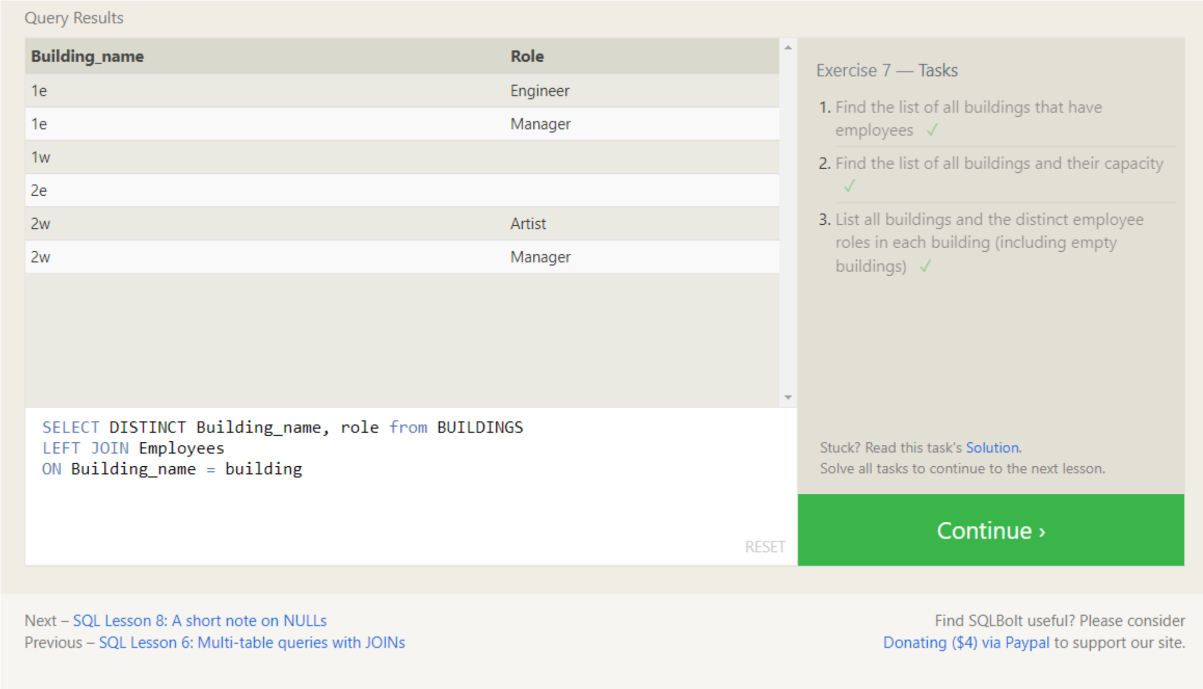
EXERCISE: 7



Building_name	Role
1e	Engineer
1e	Manager
1w	
2e	
2w	Artist
2w	Manager

```
SELECT DISTINCT Building_name, role from BUILDINGS
LEFT JOIN Employees
ON Building_name = building
```

Exercise 7 — Tasks

1. Find the list of all buildings that have employees ✓
2. Find the list of all buildings and their capacity ✓
3. List all buildings and the distinct employee roles in each building (including empty buildings) ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 8: A short note on NULLs
Previous – SQL Lesson 6: Multi-table queries with JOINs

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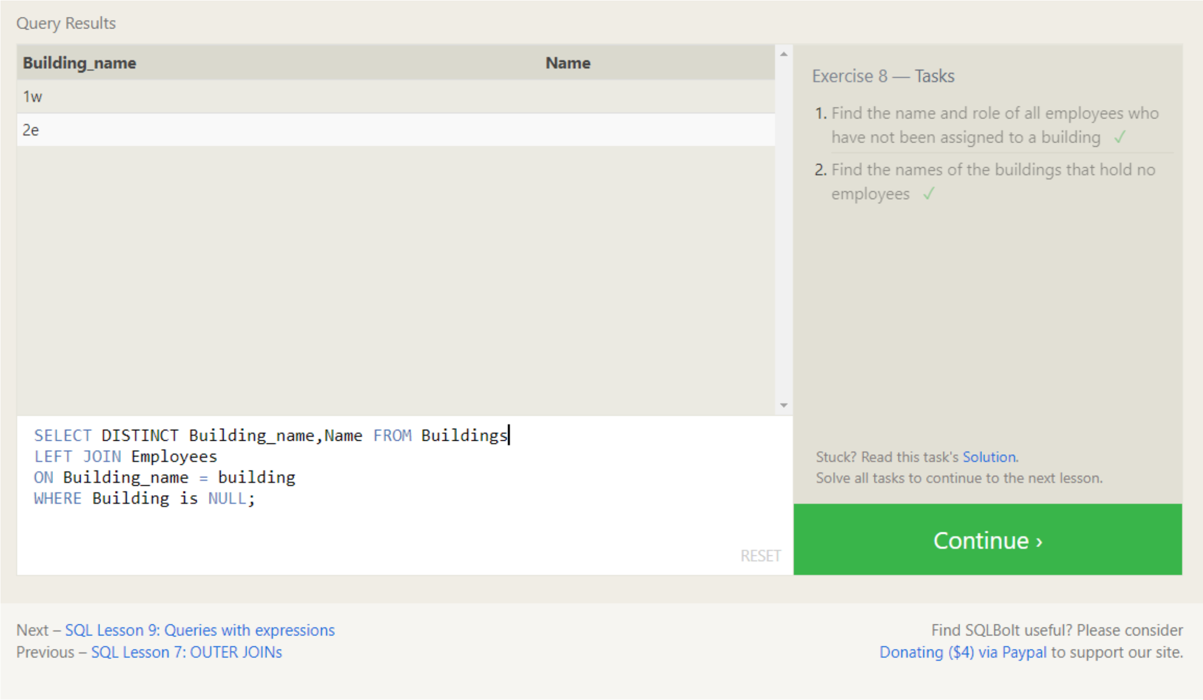
EXERCISE: 8



Building_name	Name
1w	
2e	

```
SELECT DISTINCT Building_name,Name FROM Buildings
LEFT JOIN Employees
ON Building_name = building
WHERE Building is NULL;
```

Exercise 8 — Tasks

1. Find the name and role of all employees who have not been assigned to a building ✓
2. Find the names of the buildings that hold no employees ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 9: Queries with expressions
Previous – SQL Lesson 7: OUTER JOINs

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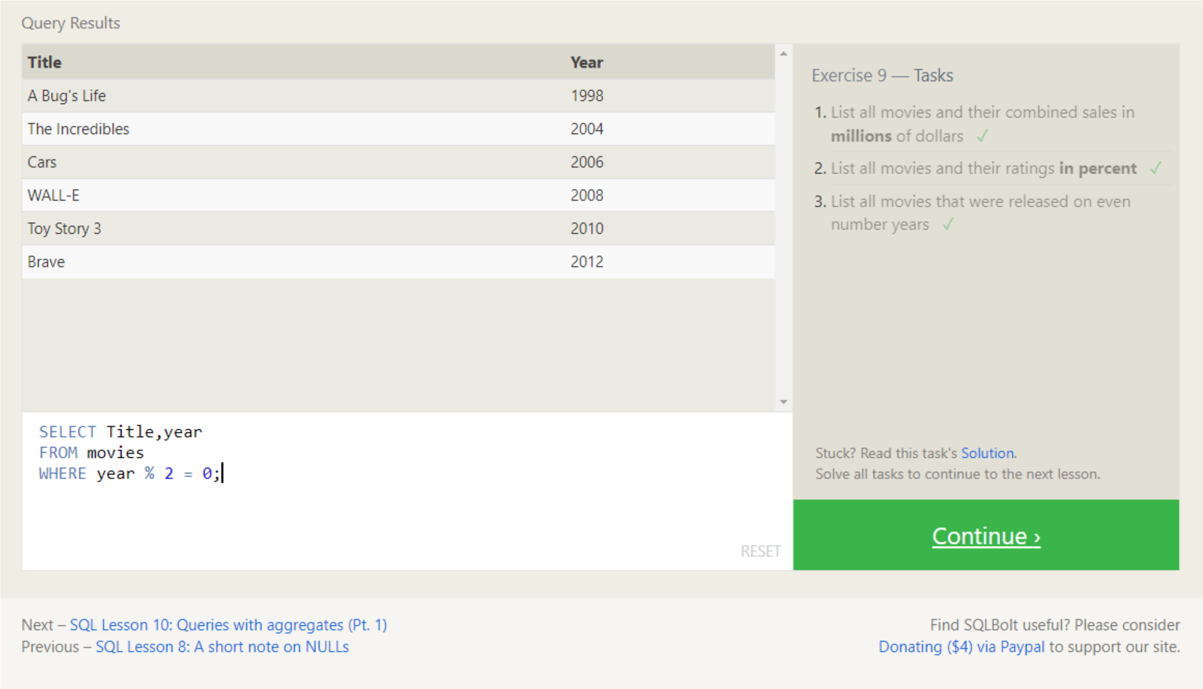
EXERCISE: 9



Query Results

Title	Year
A Bug's Life	1998
The Incredibles	2004
Cars	2006
WALL-E	2008
Toy Story 3	2010
Brave	2012

```
SELECT Title,year
FROM movies
WHERE year % 2 = 0;
```

Exercise 9 — Tasks

1. List all movies and their combined sales in **millions** of dollars ✓
2. List all movies and their ratings **in percent** ✓
3. List all movies that were released on even number years ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 10: Queries with aggregates (Pt. 1)
Previous – SQL Lesson 8: A short note on NULLs

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EXERCISE: 10

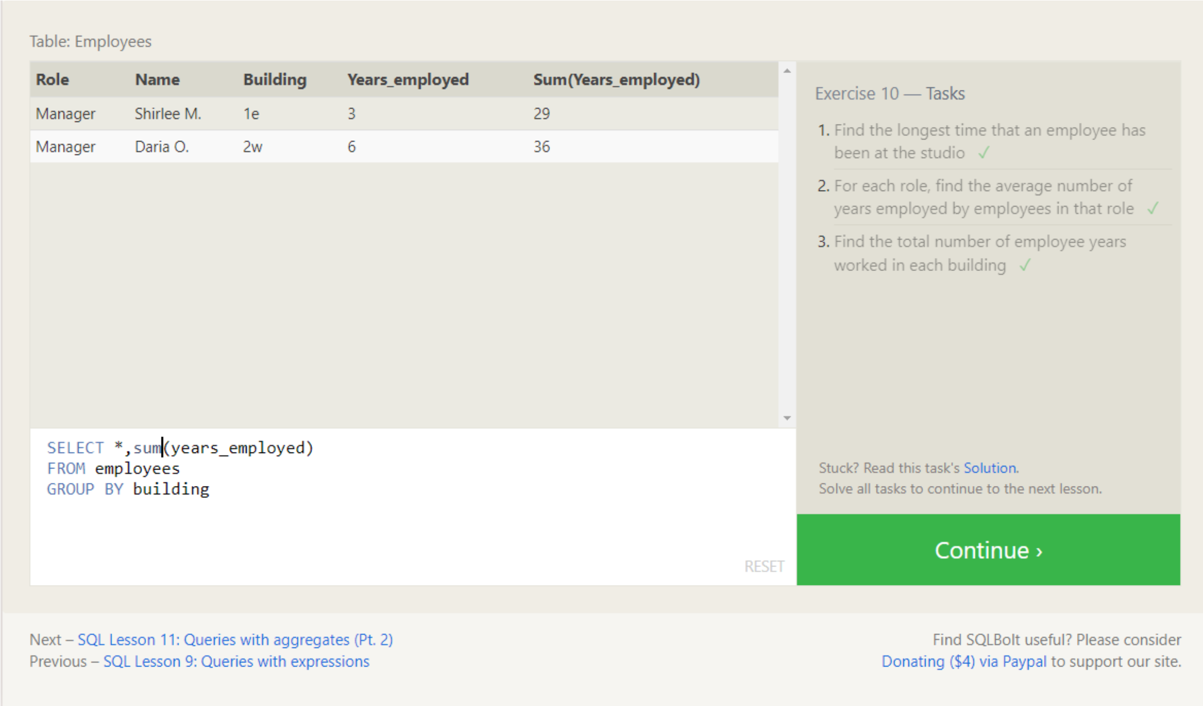

Table: Employees

Role	Name	Building	Years_employed	Sum(Years_employed)
Manager	Shirlee M.	1e	3	29
Manager	Daria O.	2w	6	36

```
SELECT *,sum(years_employed)
FROM employees
GROUP BY building
```

Exercise 10 — Tasks

1. Find the longest time that an employee has been at the studio ✓
2. For each role, find the average number of years employed by employees in that role ✓
3. Find the total number of employee years worked in each building ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 11: Queries with aggregates (Pt. 2)
Previous – SQL Lesson 9: Queries with expressions

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EXERCISE: 11

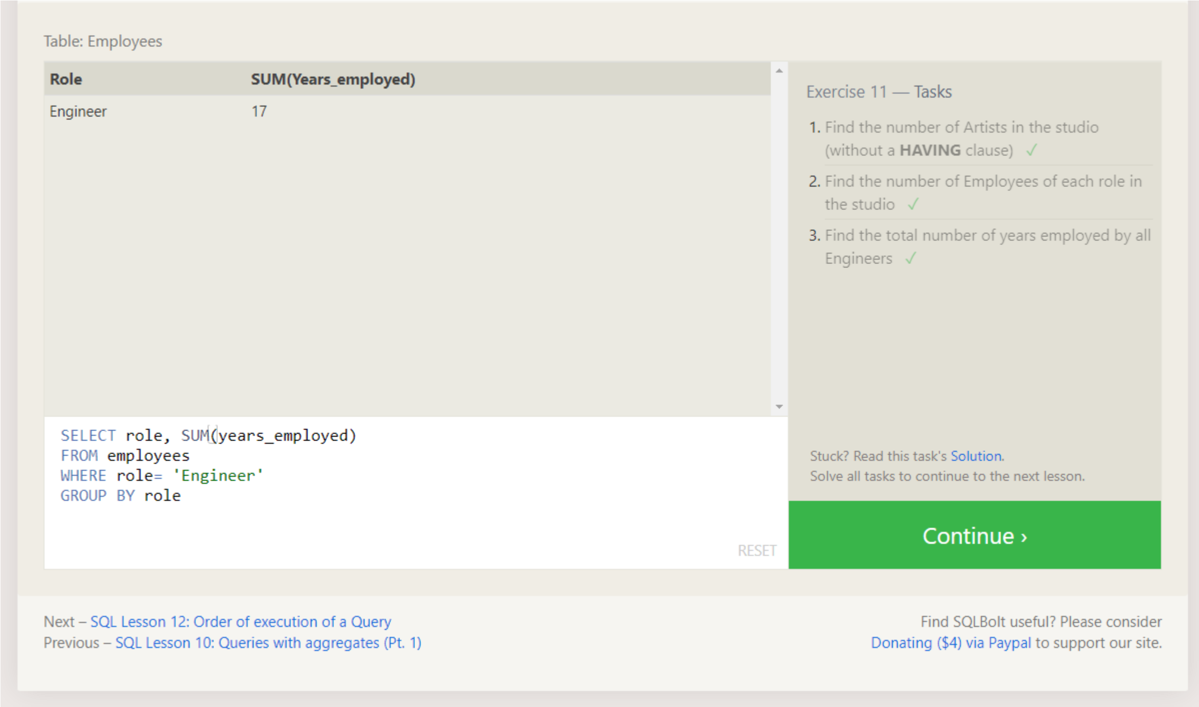

Table: Employees

Role	SUM(Years_employed)
Engineer	17

```
SELECT role, SUM(years_employed)
FROM employees
WHERE role= 'Engineer'
GROUP BY role
```

Exercise 11 — Tasks

1. Find the number of Artists in the studio (without a **HAVING** clause) ✓
2. Find the number of Employees of each role in the studio ✓
3. Find the total number of years employed by all Engineers ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 12: Order of execution of a Query
Previous – SQL Lesson 10: Queries with aggregates (Pt. 1)

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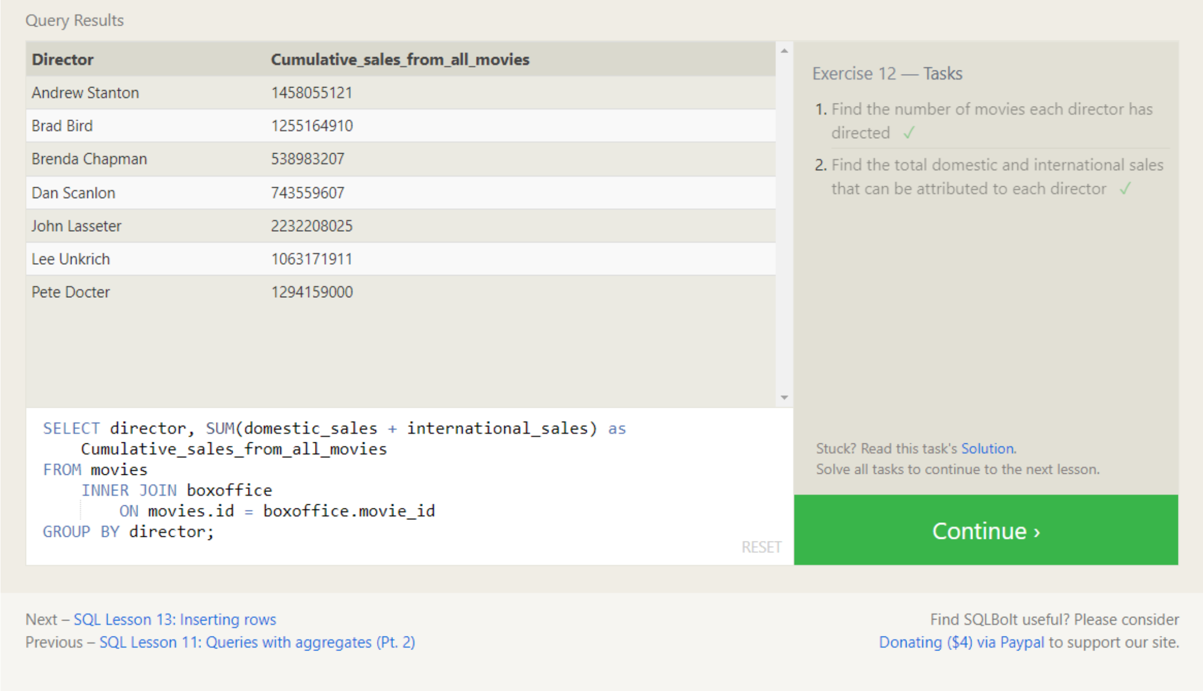
EXERCISE: 12



Query Results

Director	Cumulative_sales_from_all_movies
Andrew Stanton	1458055121
Brad Bird	1255164910
Brenda Chapman	538983207
Dan Scanlon	743559607
John Lasseter	2232208025
Lee Unkrich	1063171911
Pete Docter	1294159000

```
SELECT director, SUM(domestic_sales + international_sales) as
    Cumulative_sales_from_all_movies
FROM movies
    INNER JOIN boxoffice
        ON movies.id = boxoffice.movie_id
GROUP BY director;
```

Exercise 12 — Tasks

1. Find the number of movies each director has directed ✓
2. Find the total domestic and international sales that can be attributed to each director ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 13: Inserting rows
Previous – SQL Lesson 11: Queries with aggregates (Pt. 2)

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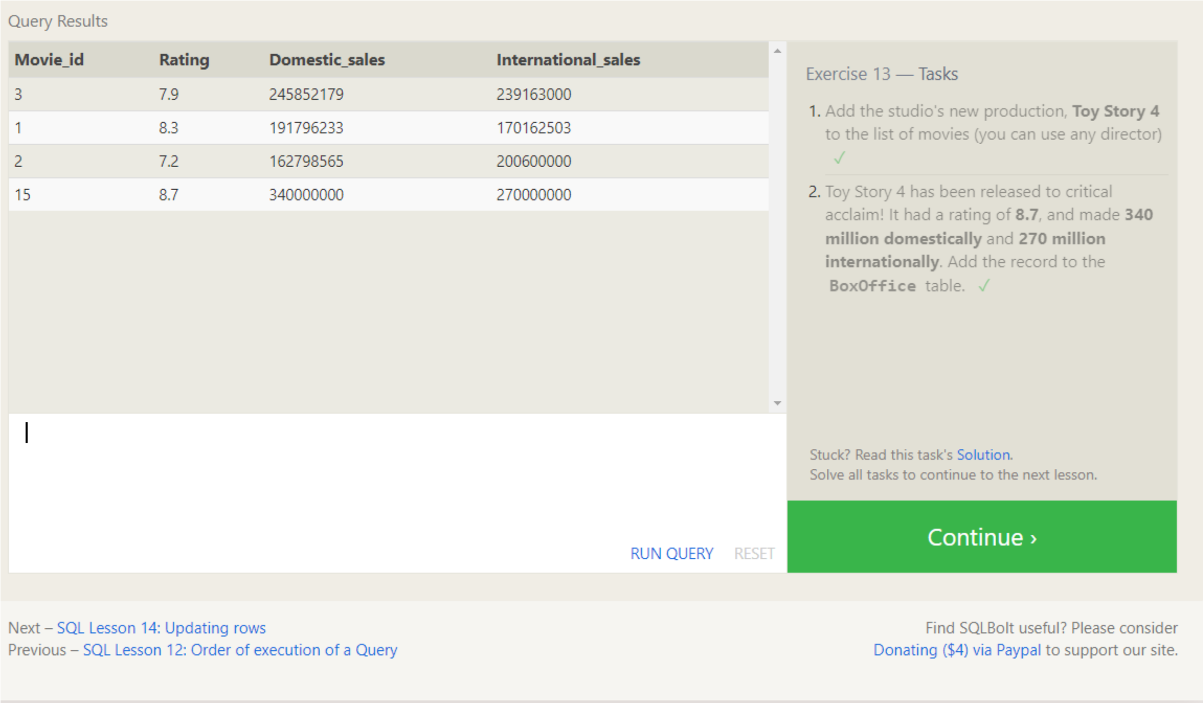
EXERCISE: 13



Query Results

Movie_id	Rating	Domestic_sales	International_sales
3	7.9	245852179	239163000
1	8.3	191796233	170162503
2	7.2	162798565	200600000
15	8.7	340000000	270000000

Exercise 13 — Tasks

1. Add the studio's new production, **Toy Story 4** to the list of movies (you can use any director) ✓
2. Toy Story 4 has been released to critical acclaim! It had a rating of **8.7**, and made **340 million domestically** and **270 million internationally**. Add the record to the `BoxOffice` table. ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 14: Updating rows
Previous – SQL Lesson 12: Order of execution of a Query

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EXERCISE: 14

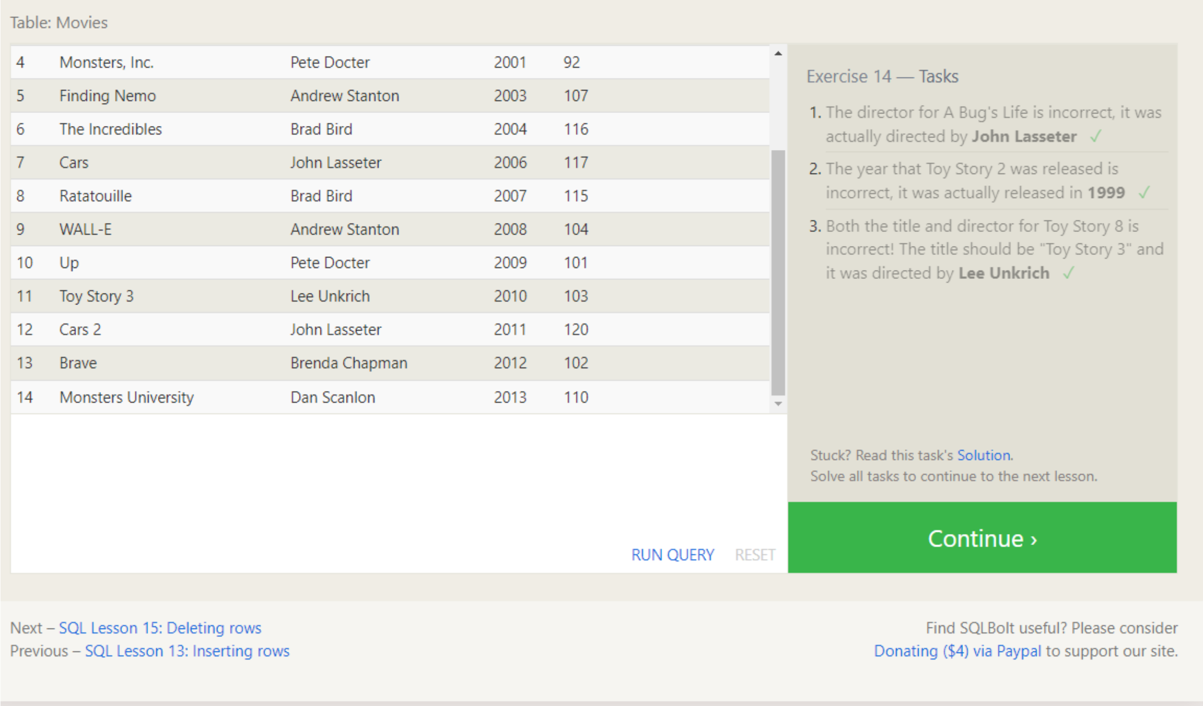

Table: Movies

4	Monsters, Inc.	Pete Docter	2001	92
5	Finding Nemo	Andrew Stanton	2003	107
6	The Incredibles	Brad Bird	2004	116
7	Cars	John Lasseter	2006	117
8	Ratatouille	Brad Bird	2007	115
9	WALL-E	Andrew Stanton	2008	104
10	Up	Pete Docter	2009	101
11	Toy Story 3	Lee Unkrich	2010	103
12	Cars 2	John Lasseter	2011	120
13	Brave	Brenda Chapman	2012	102
14	Monsters University	Dan Scanlon	2013	110

Exercise 14 — Tasks

1. The director for A Bug's Life is incorrect, it was actually directed by **John Lasseter** ✓
2. The year that Toy Story 2 was released is incorrect, it was actually released in **1999** ✓
3. Both the title and director for Toy Story 8 is incorrect! The title should be "Toy Story 3" and it was directed by **Lee Unkrich** ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 15: Deleting rows
Previous – SQL Lesson 13: Inserting rows

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EXERCISE: 15

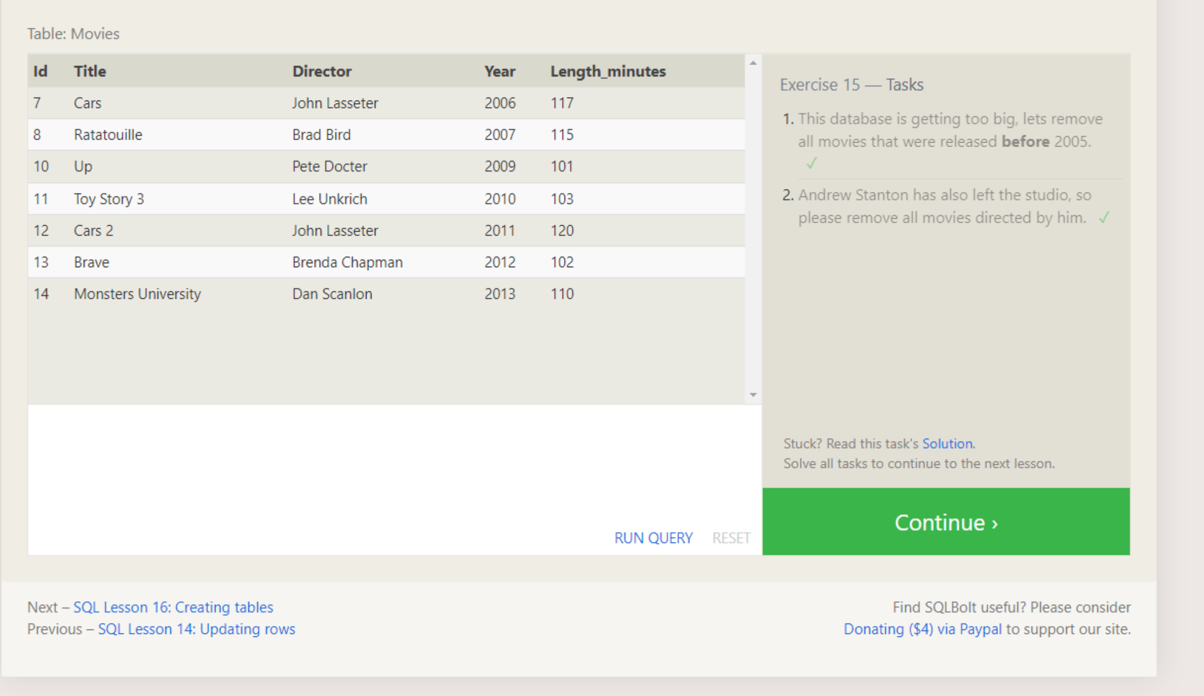

Table: Movies

Id	Title	Director	Year	Length_minutes
7	Cars	John Lasseter	2006	117
8	Ratatouille	Brad Bird	2007	115
10	Up	Pete Docter	2009	101
11	Toy Story 3	Lee Unkrich	2010	103
12	Cars 2	John Lasseter	2011	120
13	Brave	Brenda Chapman	2012	102
14	Monsters University	Dan Scanlon	2013	110

Exercise 15 — Tasks

1. This database is getting too big, lets remove all movies that were released **before** 2005. ✓
2. Andrew Stanton has also left the studio, so please remove all movies directed by him. ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 16: Creating tables
Previous – SQL Lesson 14: Updating rows

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EXERCISE: 16

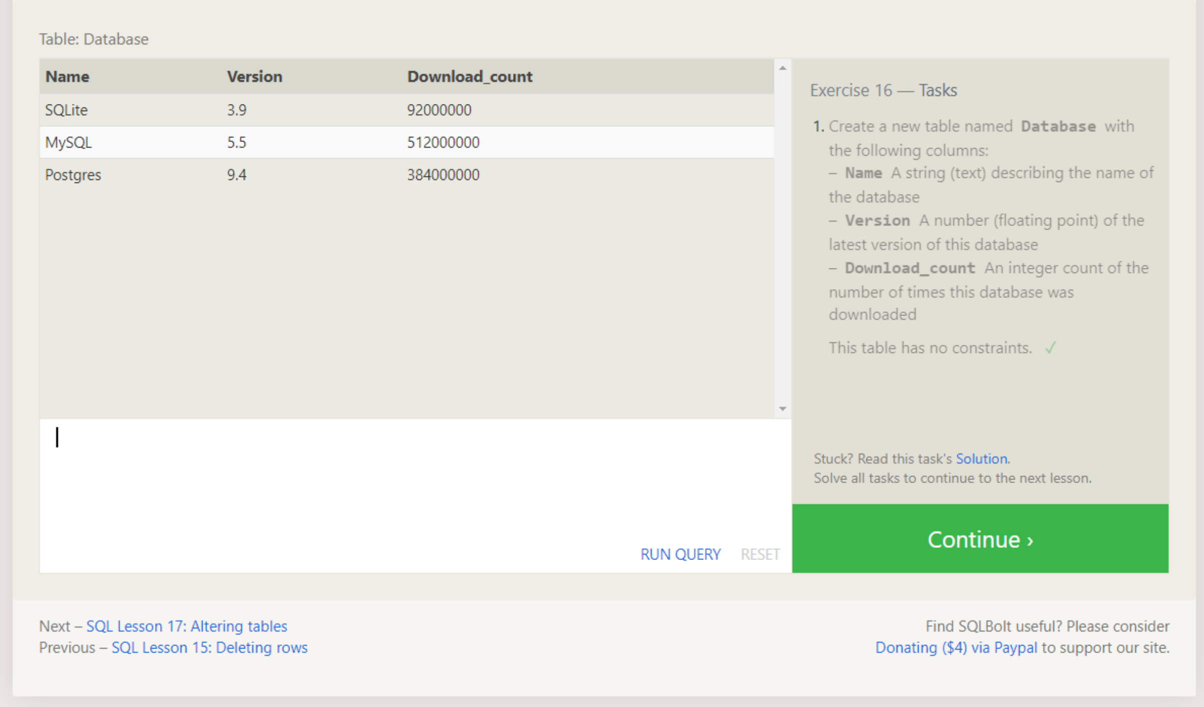

Table: Database

Name	Version	Download_count
SQLite	3.9	92000000
MySQL	5.5	512000000
Postgres	9.4	384000000

Exercise 16 — Tasks

1. Create a new table named `Database` with the following columns:
   – `Name` A string (text) describing the name of the database
   – `Version` A number (floating point) of the latest version of this database
   – `Download_count` An integer count of the number of times this database was downloaded

   This table has no constraints. ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 17: Altering tables
Previous – SQL Lesson 15: Deleting rows

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EXERCISE: 17

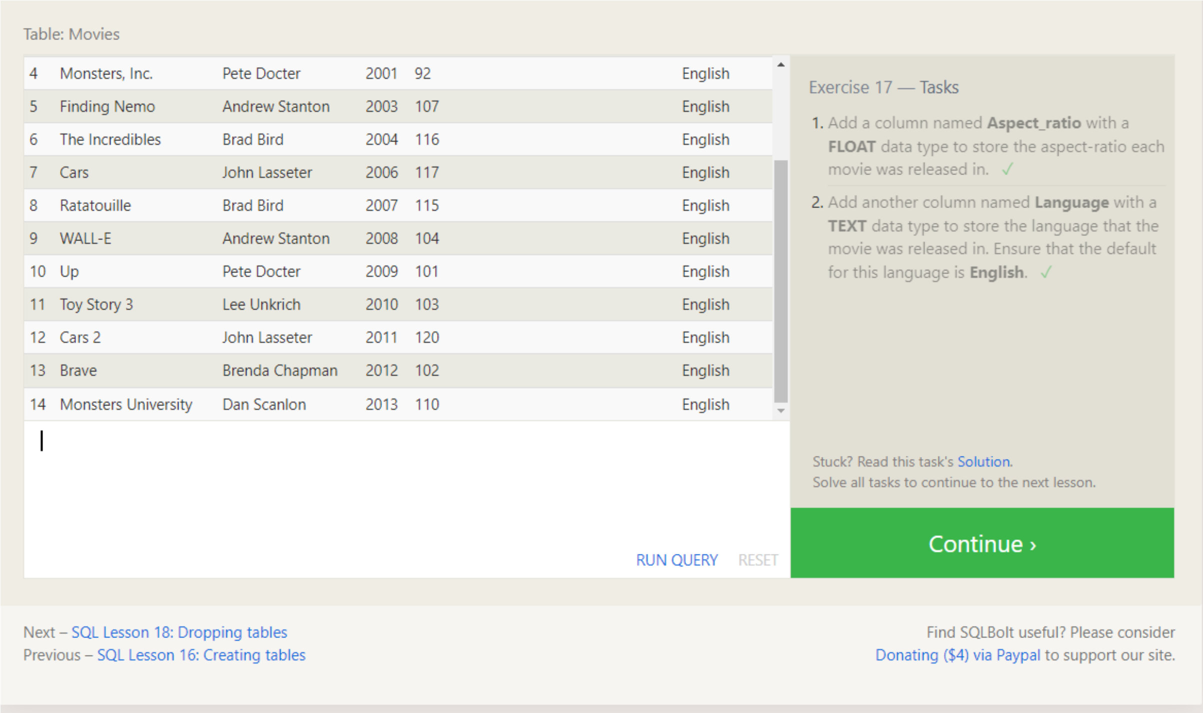

Table: Movies

4	Monsters, Inc.	Pete Docter	2001	92		English
5	Finding Nemo	Andrew Stanton	2003	107		English
6	The Incredibles	Brad Bird	2004	116		English
7	Cars	John Lasseter	2006	117		English
8	Ratatouille	Brad Bird	2007	115		English
9	WALL-E	Andrew Stanton	2008	104		English
10	Up	Pete Docter	2009	101		English
11	Toy Story 3	Lee Unkrich	2010	103		English
12	Cars 2	John Lasseter	2011	120		English
13	Brave	Brenda Chapman	2012	102		English
14	Monsters University	Dan Scanlon	2013	110		English

Exercise 17 — Tasks

1. Add a column named **Aspect_ratio** with a **FLOAT** data type to store the aspect-ratio each movie was released in. ✓
2. Add another column named **Language** with a **TEXT** data type to store the language that the movie was released in. Ensure that the default for this language is **English**. ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson 18: Dropping tables
Previous – SQL Lesson 16: Creating tables

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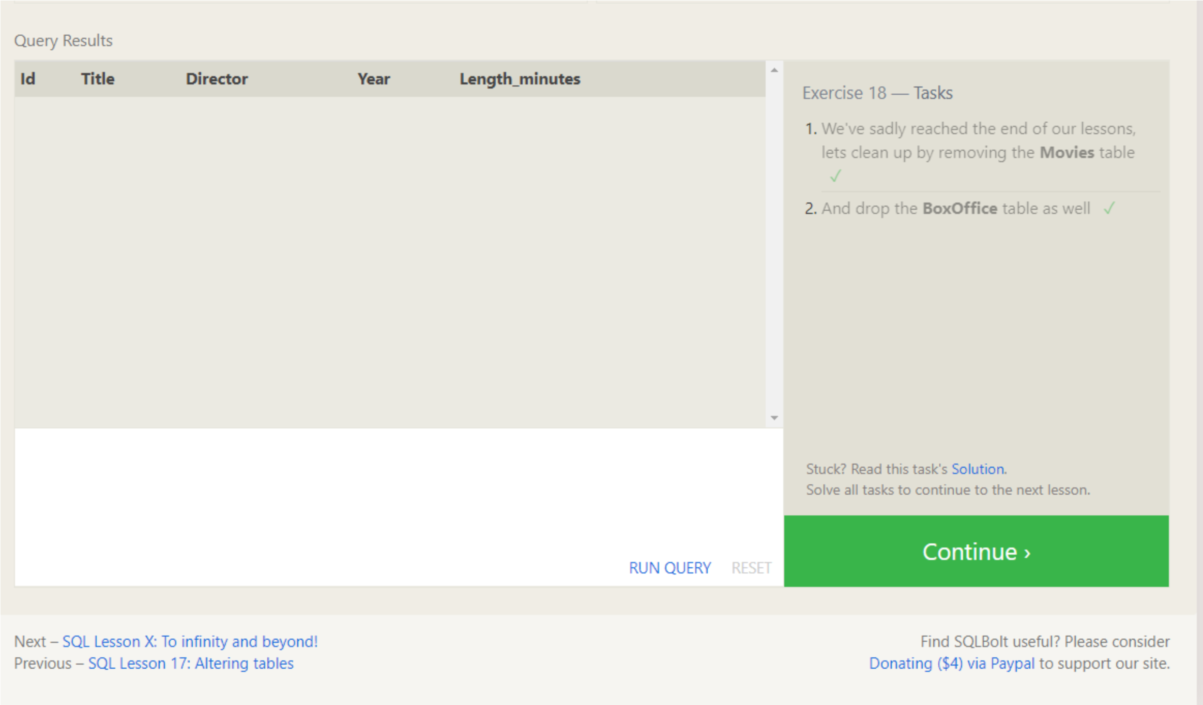
EXERCISE: 18



Query Results

Id	Title	Director	Year	Length_minutes

Exercise 18 — Tasks

1. We've sadly reached the end of our lessons, lets clean up by removing the **Movies** table ✓
2. And drop the **BoxOffice** table as well ✓

Stuck? Read this task's Solution.
Solve all tasks to continue to the next lesson.

Next – SQL Lesson X: To infinity and beyond!
Previous – SQL Lesson 17: Altering tables

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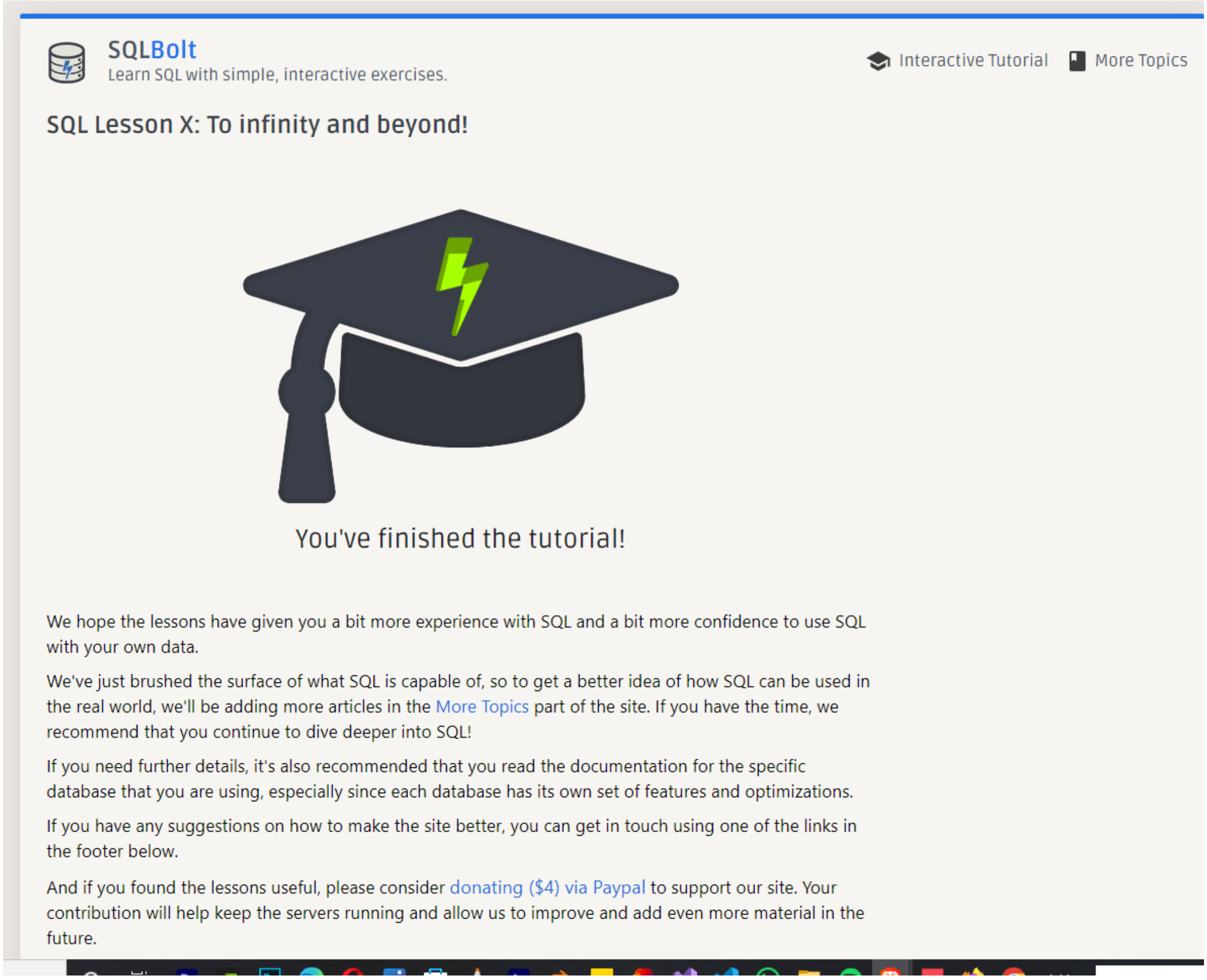
COMPLETED



SQL Lesson X: To infinity and beyond!

You've finished the tutorial!

We hope the lessons have given you a bit more experience with SQL and a bit more confidence to use SQL with your own data.

We've just brushed the surface of what SQL is capable of, so to get a better idea of how SQL can be used in the real world, we'll be adding more articles in the More Topics part of the site. If you have the time, we recommend that you continue to dive deeper into SQL!

If you need further details, it's also recommended that you read the documentation for the specific database that you are using, especially since each database has its own set of features and optimizations.

If you have any suggestions on how to make the site better, you can get in touch using one of the links in the footer below.

And if you found the lessons useful, please consider donating ($4) via Paypal to support our site. Your contribution will help keep the servers running and allow us to improve and add even more material in the future.