Lesson 1

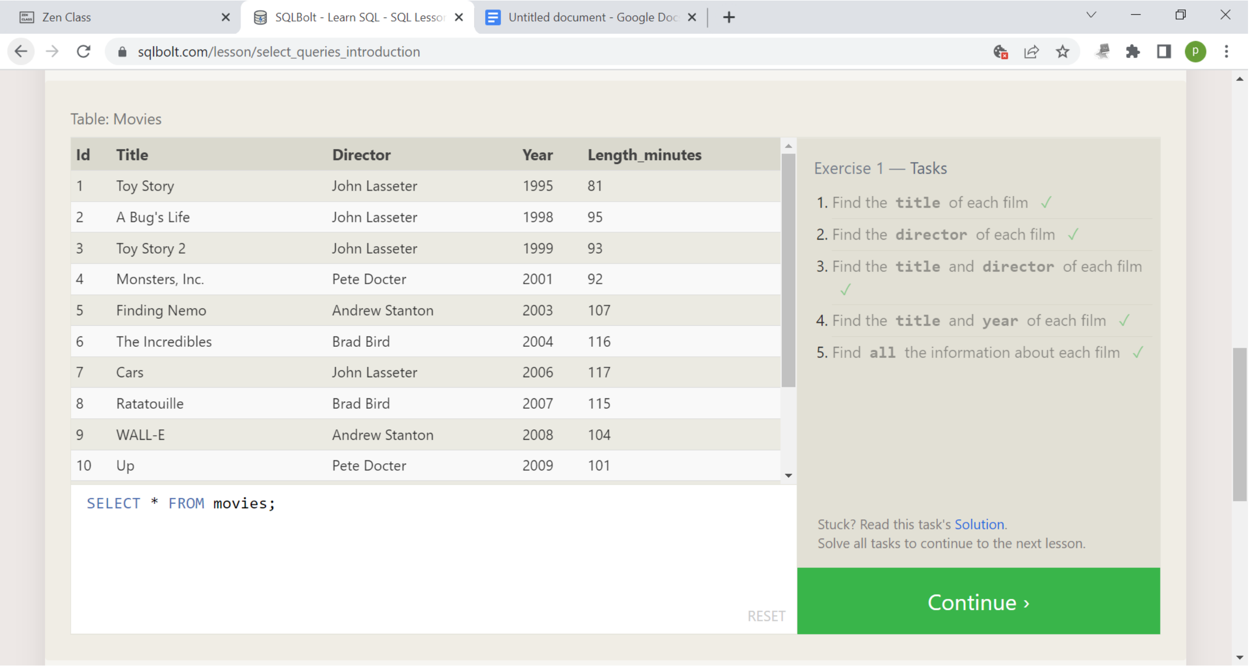
Zen Class
SQLBolt - Learn SQL - SQL Lesso
Untitled document - Google Doc
sqlbolt.com/lesson/select_queries_introduction
RESET
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Table: Movies

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.

1. SELECT title FROM movies;
2. SELECT director FROM movies;
3. SELECT title,director FROM movies;
4. SELECT title,year FROM movies;
5. SELECT * FROM movies;

Lesson 2

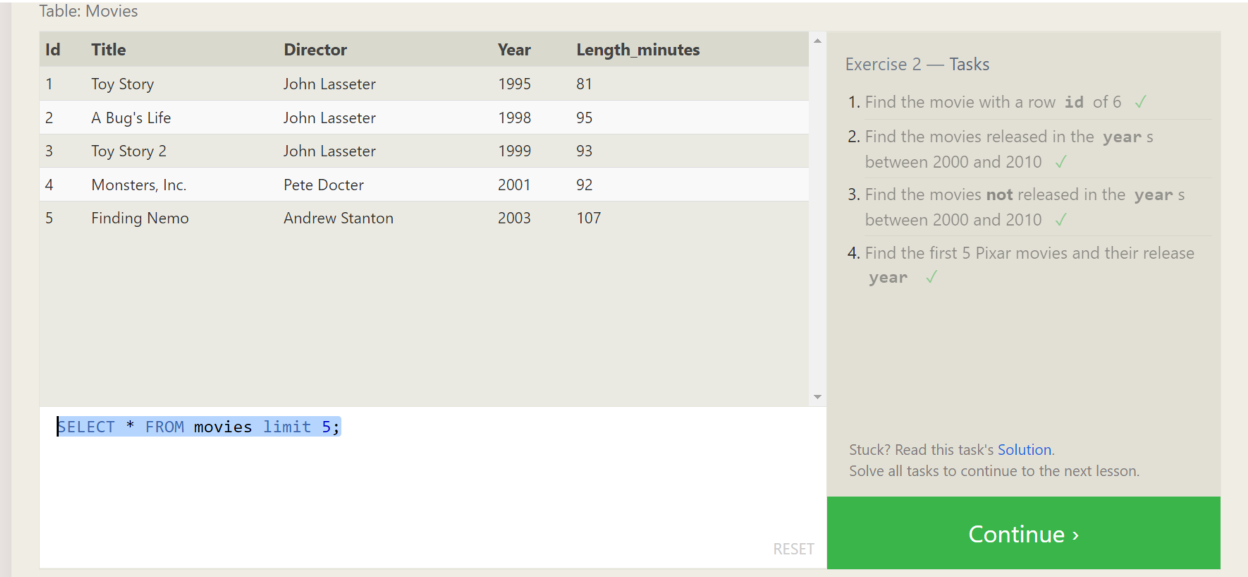


Table: Movies

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

```
SELECT * FROM movies 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.

1. SELECT * FROM movies where id=6;
2. SELECT * FROM movies where year between 2000 and 2010;
3. SELECT * FROM movies where not year between 2000 and 2010;
4. SELECT * FROM movies limit 5;

Lesson 3

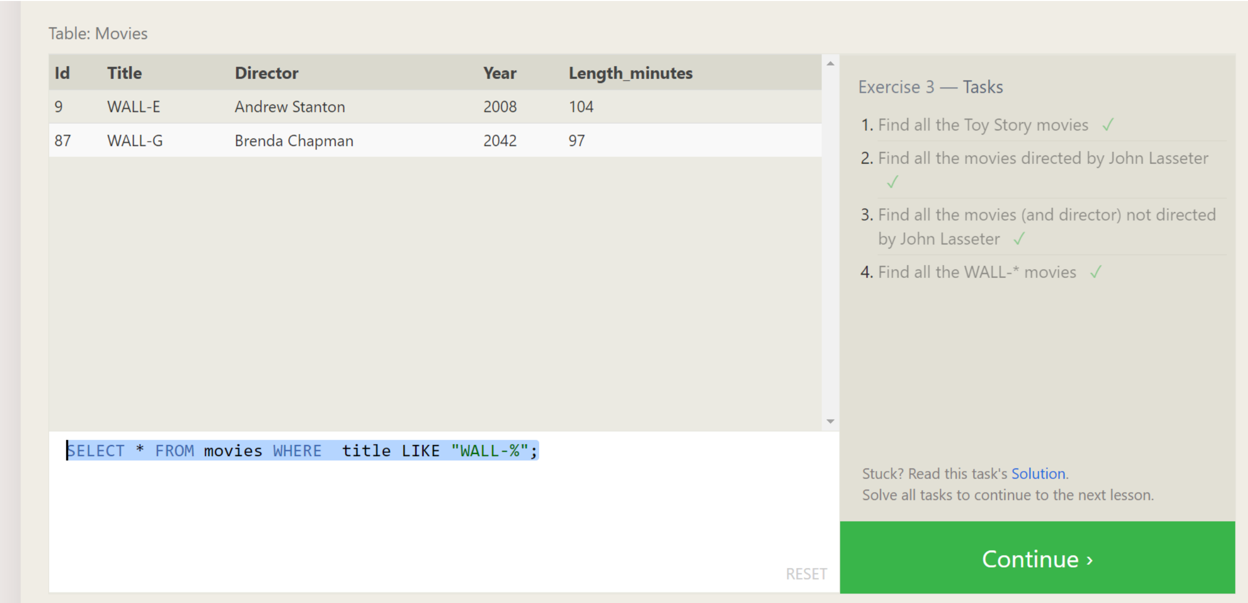


Table: Movies

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.

1. SELECT title, director FROM movies WHERE title LIKE "Toy Story%";
2. SELECT * FROM movies WHERE director LIKE "John Lasseter";
3. SELECT * FROM movies WHERE NOT director LIKE "John Lasseter";
4. SELECT * FROM movies WHERE title LIKE "WALL-%";

Lesson 4

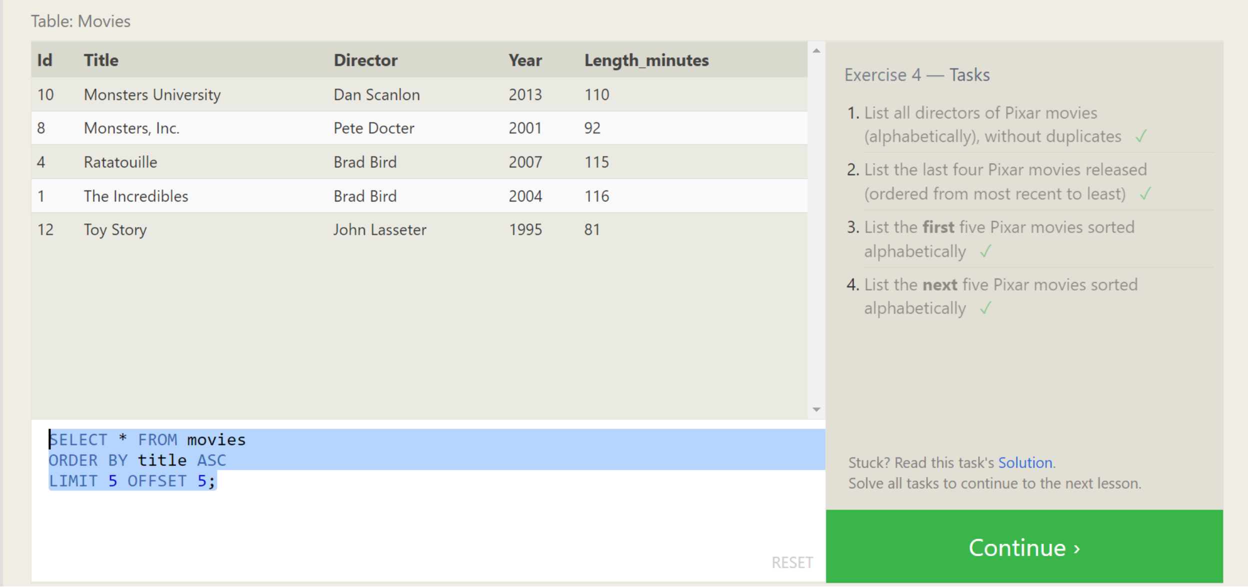


Table: Movies

Id	Title	Director	Year	Length_minutes
10	Monsters University	Dan Scanlon	2013	110
8	Monsters, Inc.	Pete Docter	2001	92
4	Ratatouille	Brad Bird	2007	115
1	The Incredibles	Brad Bird	2004	116
12	Toy Story	John Lasseter	1995	81

```
SELECT * 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.

1. SELECT DISTINCT director FROM movies ORDER BY director ASC;
2. SELECT * FROM movies ORDER BY year DESC LIMIT 4;
3. SELECT * FROM movies ORDER BY title ASC LIMIT 5;
4. SELECT * FROM moviesORDER BY title ASC LIMIT 5 OFFSET 5;

Review 1

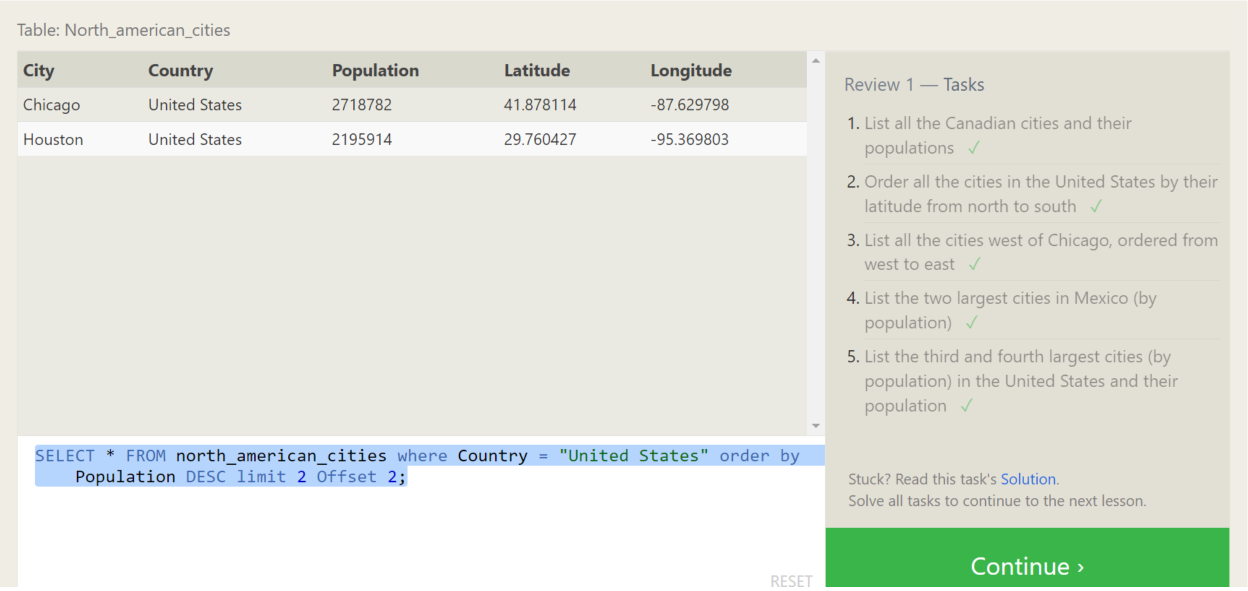


Table: North_american_cities

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 = "United States" order by
    Population DESC limit 2 Offset 2;
```

Review 1 — Tasks

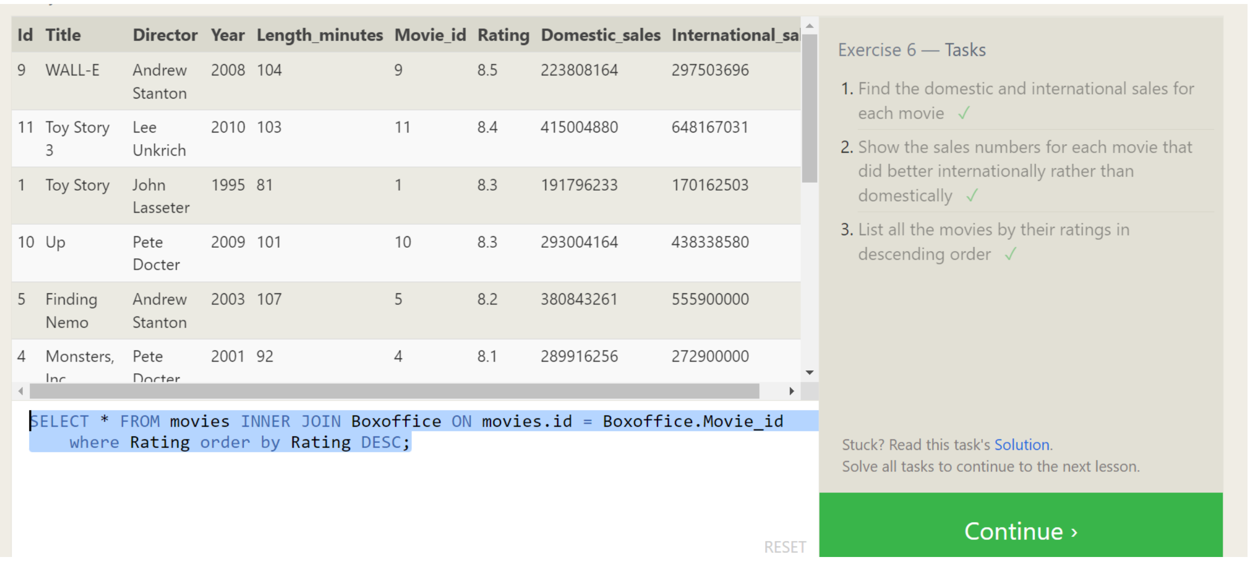
1. List all the Canadian cities and their populations ✓
2. Order all the cities in the United States by their latitude from north to south ✓
3. List all the cities west of Chicago, ordered from west to east ✓
4. List the two largest cities in Mexico (by population) ✓
5. List the third and fourth largest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

1. SELECT City,Population FROM north_american_cities where Country = "Canada";
2. SELECT * FROM north_american_cities where Country = "United States" ORDER BY Latitude DESC;

3. SELECT * FROM north_american_cities where Longitude < "-87.629798" order by Longitude ASC;
4. SELECT * FROM north_american_cities where Country = "Mexico" order by Population DESC limit 2;
5. SELECT * FROM north_american_cities where Country = "United States" order by Population DESC limit 2 Offset 2;

Lesson 6



Id	Title	Director	Year	Length_minutes	Movie_id	Rating	Domestic_sales	International_sa
9	WALL-E	Andrew Stanton	2008	104	9	8.5	223808164	297503696
11	Toy Story 3	Lee Unkrich	2010	103	11	8.4	415004880	648167031
1	Toy Story	John Lasseter	1995	81	1	8.3	191796233	170162503
10	Up	Pete Docter	2009	101	10	8.3	293004164	438338580
5	Finding Nemo	Andrew Stanton	2003	107	5	8.2	380843261	555900000
4	Monsters, Inc	Pete Docter	2001	92	4	8.1	289916256	272900000

```
SELECT * FROM movies INNER JOIN Boxoffice ON movies.id = Boxoffice.Movie_id
    where Rating order by Rating DESC;
```

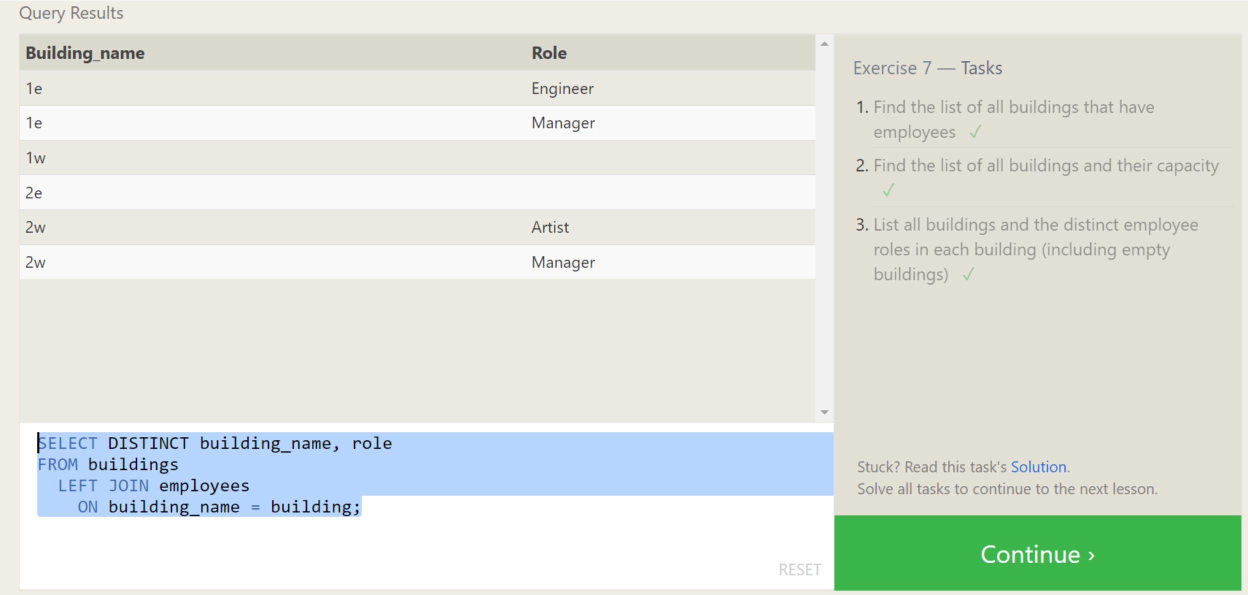
Exercise 6 — Tasks

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.

1. SELECT * FROM movies INNER JOIN Boxoffice ON movies.id = Boxoffice.Movie_id order by Id;
2. SELECT * FROM movies INNER JOIN Boxoffice ON movies.id = Boxoffice.Movie_id where International_sales > Domestic_sales;
3. SELECT * FROM movies INNER JOIN Boxoffice ON movies.id = Boxoffice.Movie_id where Rating order by Rating DESC;

Lesson 7



Query Results

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;
```

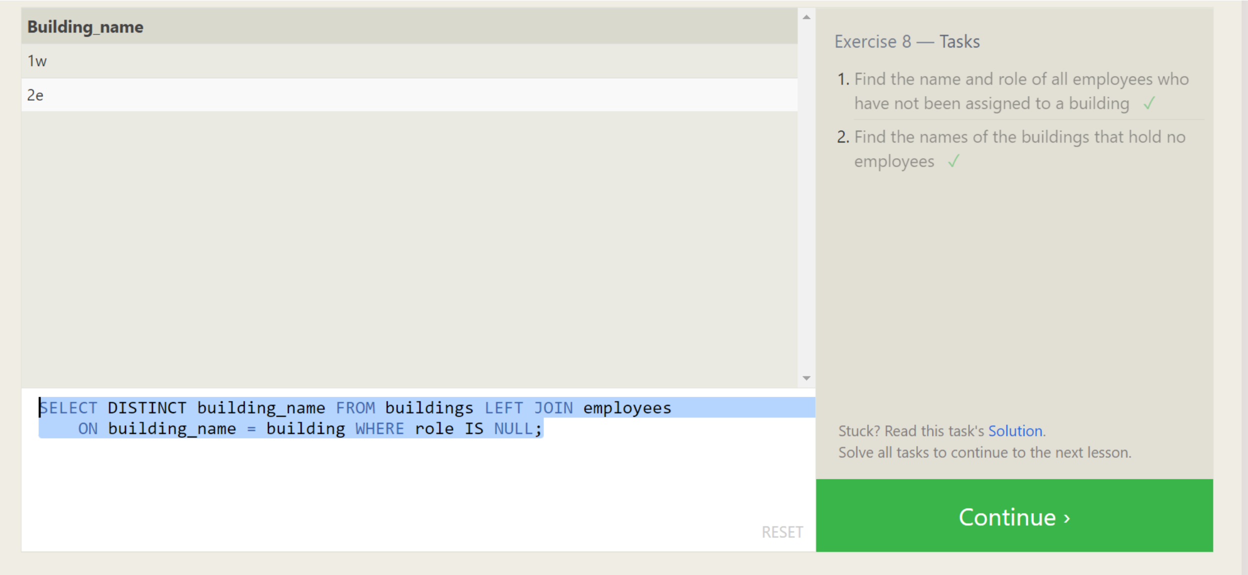
Exercise 7 — Tasks

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.

1. SELECT DISTINCT building FROM employees;
2. SELECT * FROM Buildings;
3. SELECT DISTINCT building_name, role FROM buildings LEFT JOIN employees ON building_name = building;

Lesson 8



Building_name
1w
2e

```
SELECT DISTINCT building_name FROM buildings LEFT JOIN employees
    ON building_name = building WHERE role IS NULL;
```

Exercise 8 — Tasks

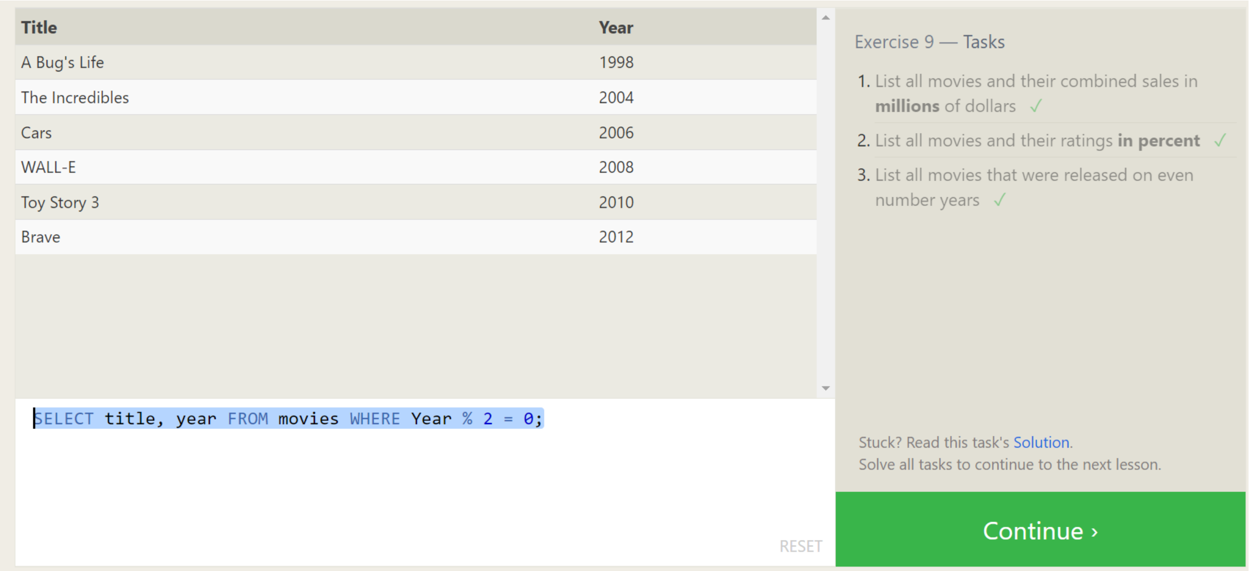
1. Find the name and role of all employees who have not been assigned to a building ✓
2. Find the names of the buildings that hold no employees ✓

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

1. SELECT * FROM employees where Building IS NULL;
2. SELECT DISTINCT building_name FROM buildings LEFT JOIN employees

ON building_name = building WHERE role IS NULL;

Lesson 9



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;
```

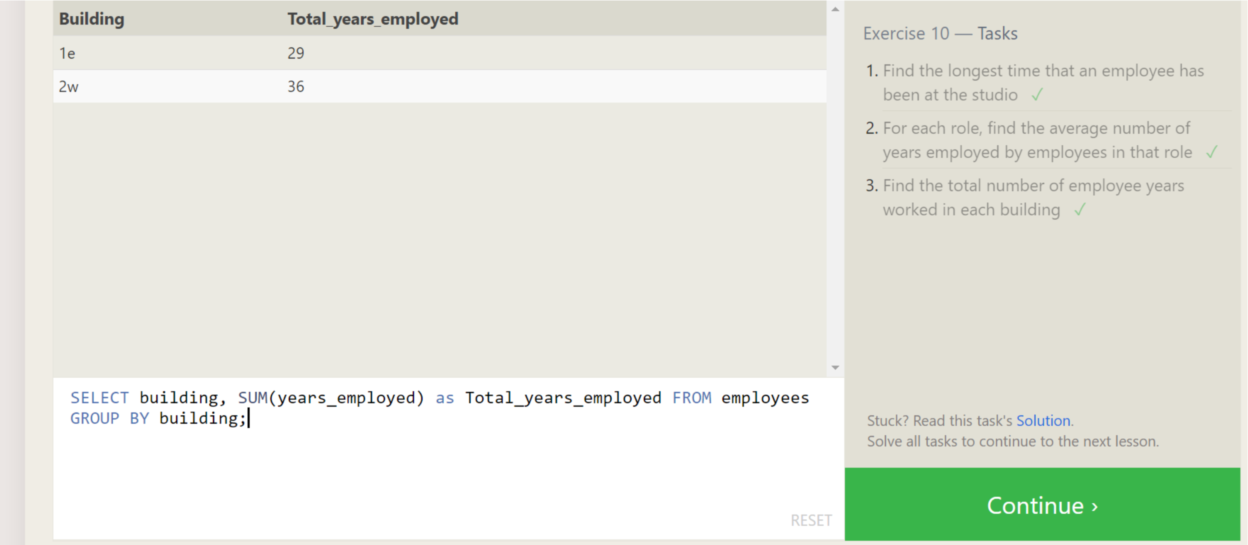
Exercise 9 — Tasks

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.

1. SELECT title, (domestic_sales + international_sales) / 1000000 AS combined_sales FROM movies JOIN boxoffice ON movies.id = boxoffice.movie_id;
2. SELECT Title,Rating * 10 AS Percentage_Rating FROM movies JOIN boxoffice ON movies.id = boxoffice.movie_id;
3. SELECT title, year FROM movies WHERE Year % 2 = 0;

Lesson 10



Building	Total_years_employed
1e	29
2w	36

```
SELECT building, SUM(years_employed) as Total_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.

1. SELECT name,max(Years_employed) FROM employees;

2. SELECT role, AVG(years_employed) as Average_years_employed FROM employees GROUP BY role;
3. SELECT building, SUM(years_employed) as Total_years_employed FROM employees GROUP BY building;

Lesson 11

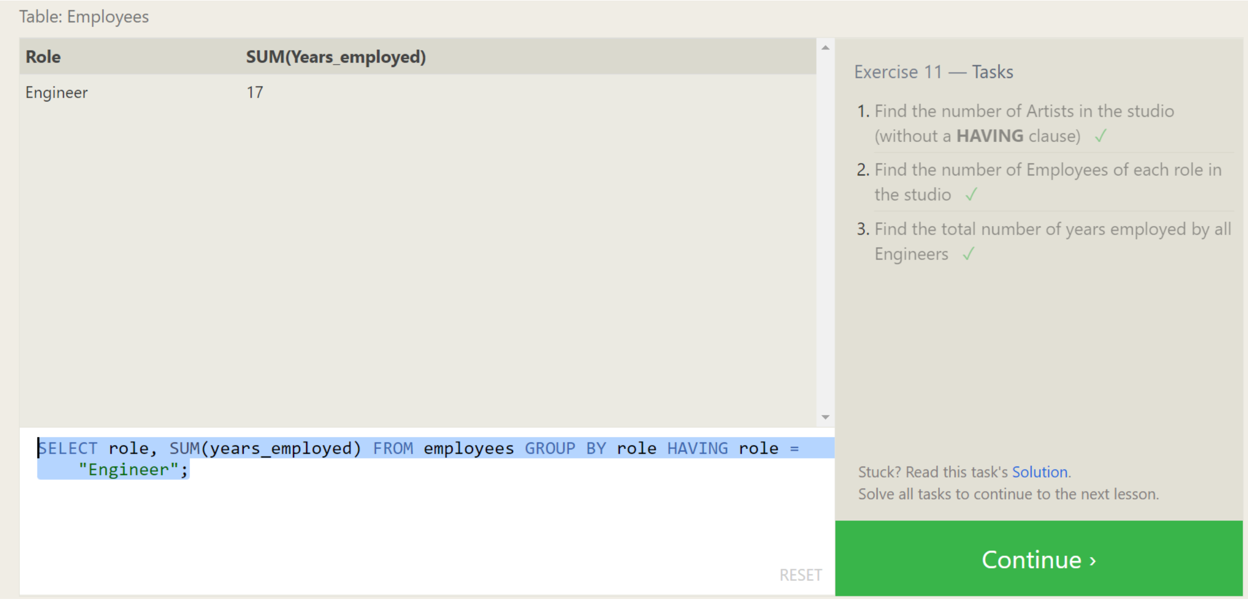


Table: Employees

Role	SUM(Years_employed)
Engineer	17

```
SELECT role, SUM(years_employed) FROM employees GROUP BY role HAVING role =
    "Engineer";
```

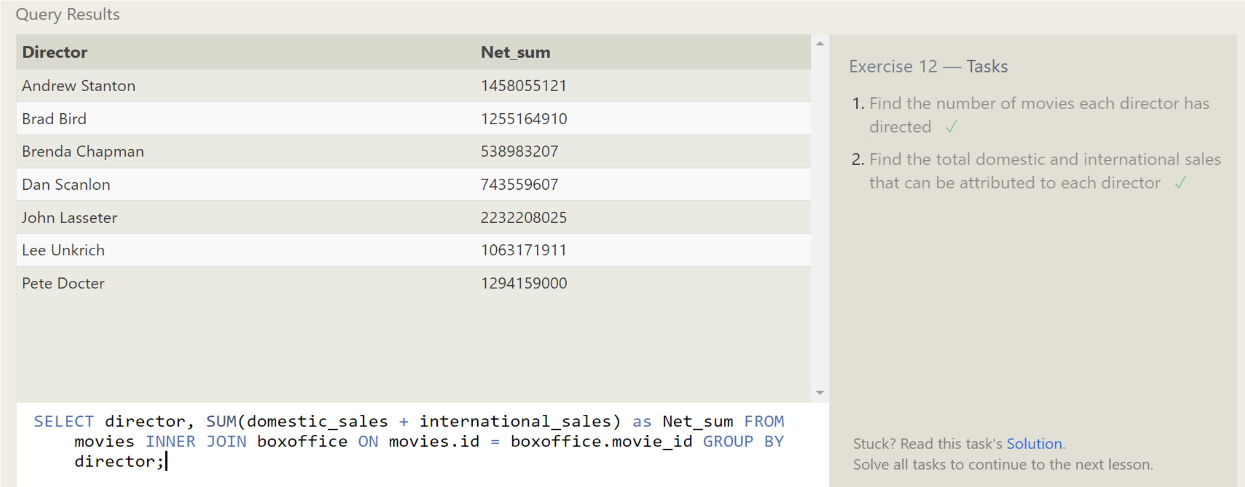
Exercise 11 — Tasks

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.

1. SELECT role, COUNT(*) as Number_of_artists FROM employees WHERE role = "Artist";
2. SELECT role, COUNT(*) as Number_of_artists FROM employees group by role;
3. SELECT role, SUM(years_employed) FROM employees GROUP BY role HAVING role = "Engineer";

Lesson 12



Director	Net_sum
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 Net_sum FROM
    movies INNER JOIN boxoffice ON movies.id = boxoffice.movie_id GROUP BY
    director;
```

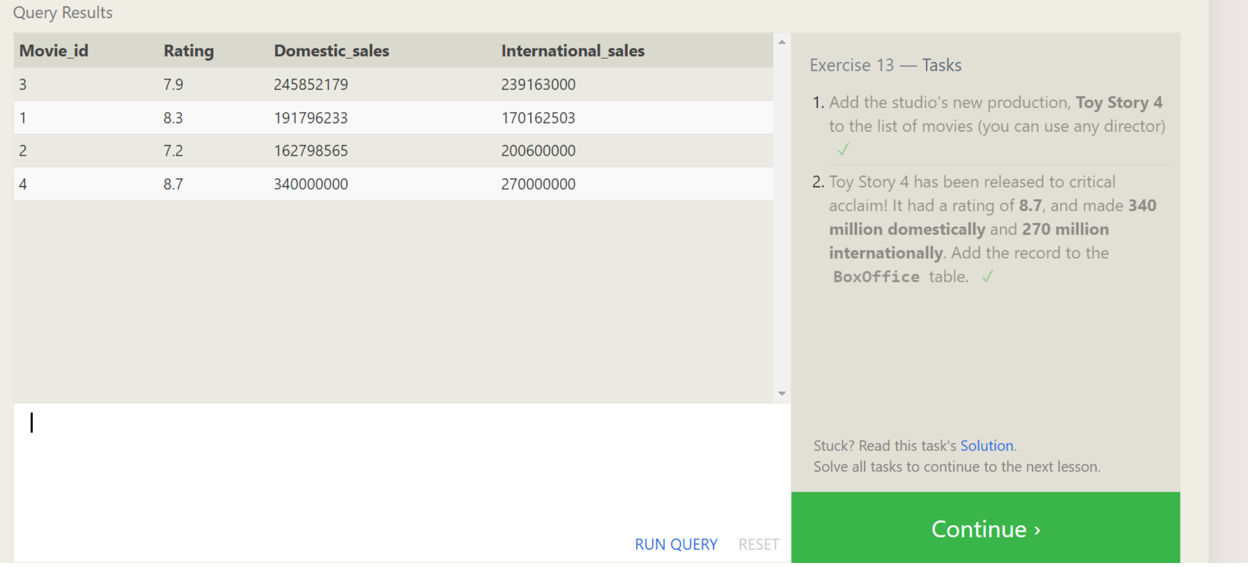
Exercise 12 — Tasks

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.

1. SELECT director, COUNT(id) as Num_movies_directed FROM movies GROUP BY director;
2. SELECT director, SUM(domestic_sales + international_sales) as Net_sum FROM movies INNER JOIN boxoffice ON movies.id = boxoffice.movie_id GROUP BY director;

Lesson 13



Movie_id	Rating	Domestic_sales	International_sales
3	7.9	245852179	239163000
1	8.3	191796233	170162503
2	7.2	162798565	200600000
4	8.7	340000000	270000000

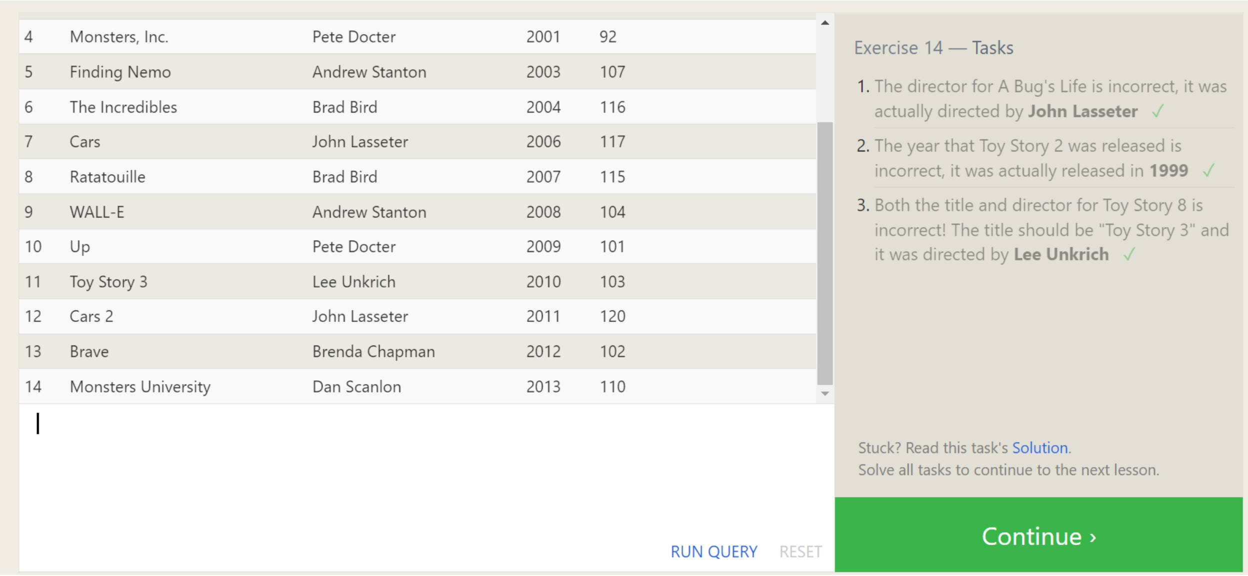
Exercise 13 — Tasks

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.

1. INSERT INTO movies VALUES (11, "Toy Story 4", "John Lasseter", 2011, 120);
2. INSERT INTO boxoffice VALUES (11, 8.7, 340000000, 270000000);

Lesson 14



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.

1. UPDATE movies SET director = "John Lasseter" WHERE id = 2;
2. UPDATE movies SET year = 1999 WHERE id = 3;
3. UPDATE movies SET Title = "Toy Story 3" ,Director = "Lee Unkrich" WHERE id = 11;

Lesson 15

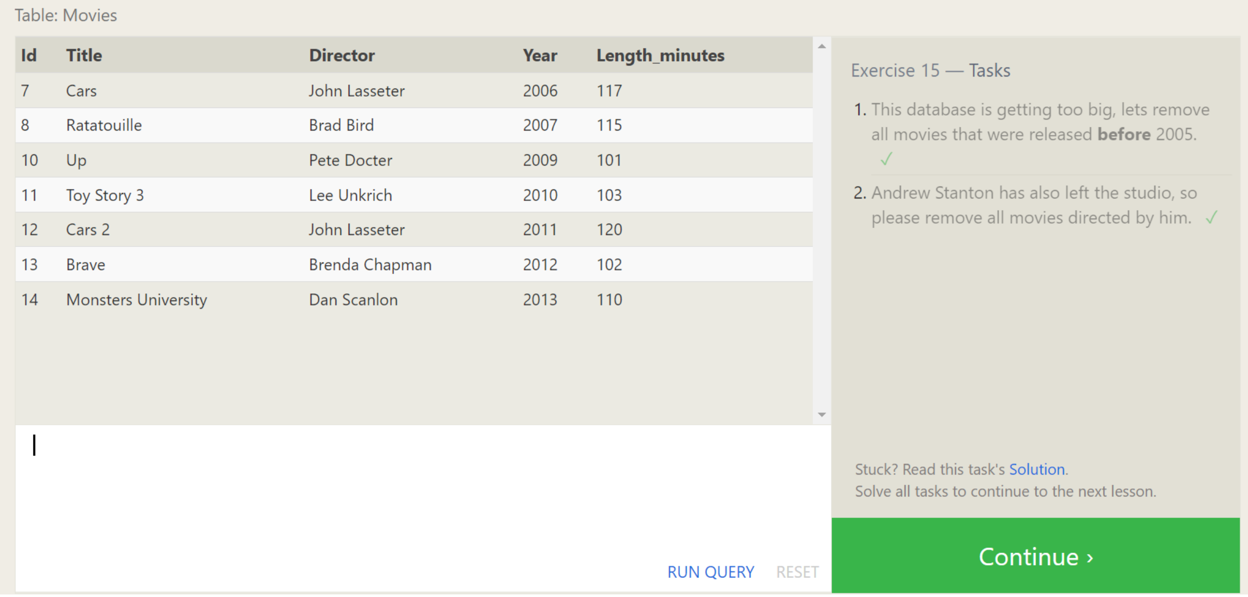


Table: Movies

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.

1. DELETE FROM movies WHERE Year<2005;
2. DELETE FROM movies WHERE Director = "Andrew Stanton";

Lesson 16

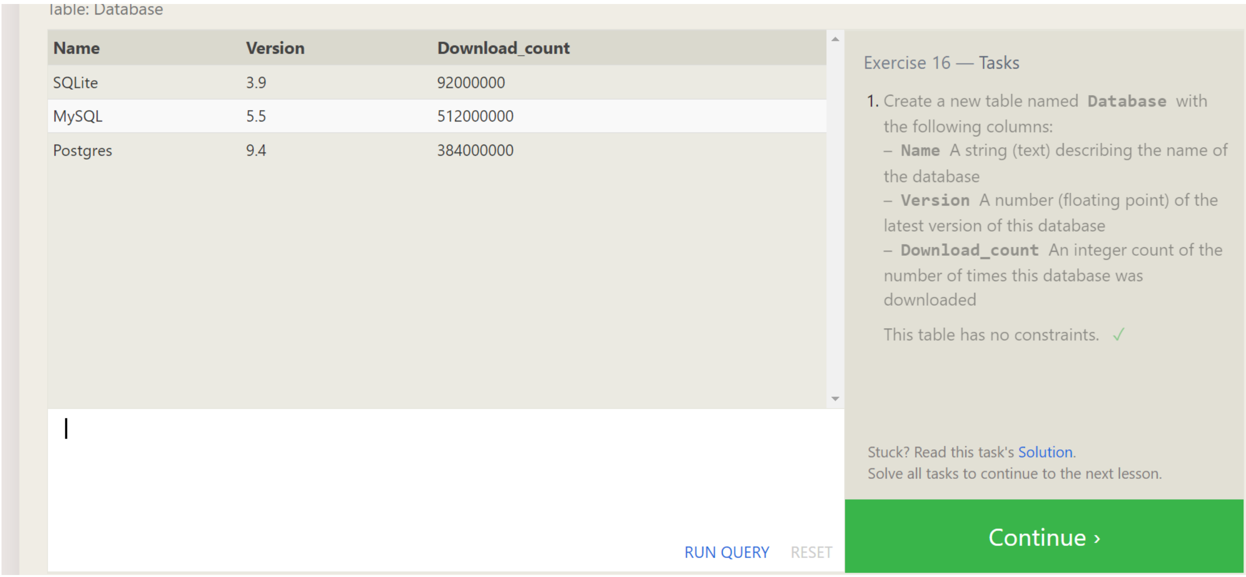


Table: Database

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

Exercise 16 — Tasks

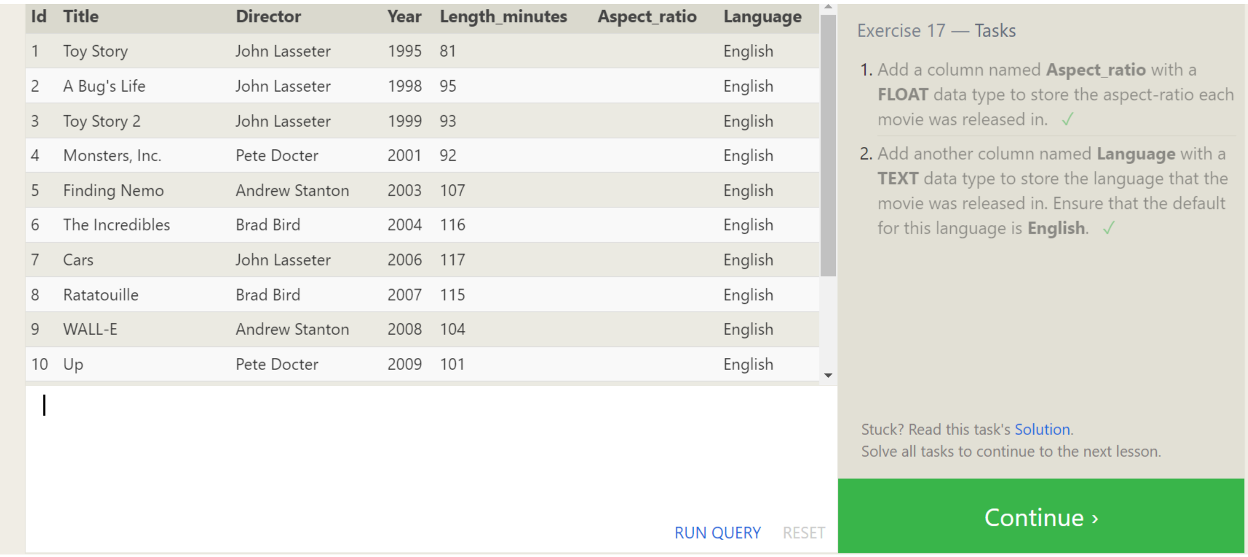
1. Create a new table named **Database** with the following columns:
   – **Name** A string (text) describing the name of the database
   – **Version** A number (floating point) of the latest version of this database
   – **Download_count** An integer count of the number of times this database was downloaded

   This table has no constraints. ✓

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

1. CREATE TABLE Database(
    Name TEXT,
    Version FLOAT,
   Download_count INTEGER
   );

Lesson 17



Id	Title	Director	Year	Length_minutes	Aspect_ratio	Language
1	Toy Story	John Lasseter	1995	81		English
2	A Bug's Life	John Lasseter	1998	95		English
3	Toy Story 2	John Lasseter	1999	93		English
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

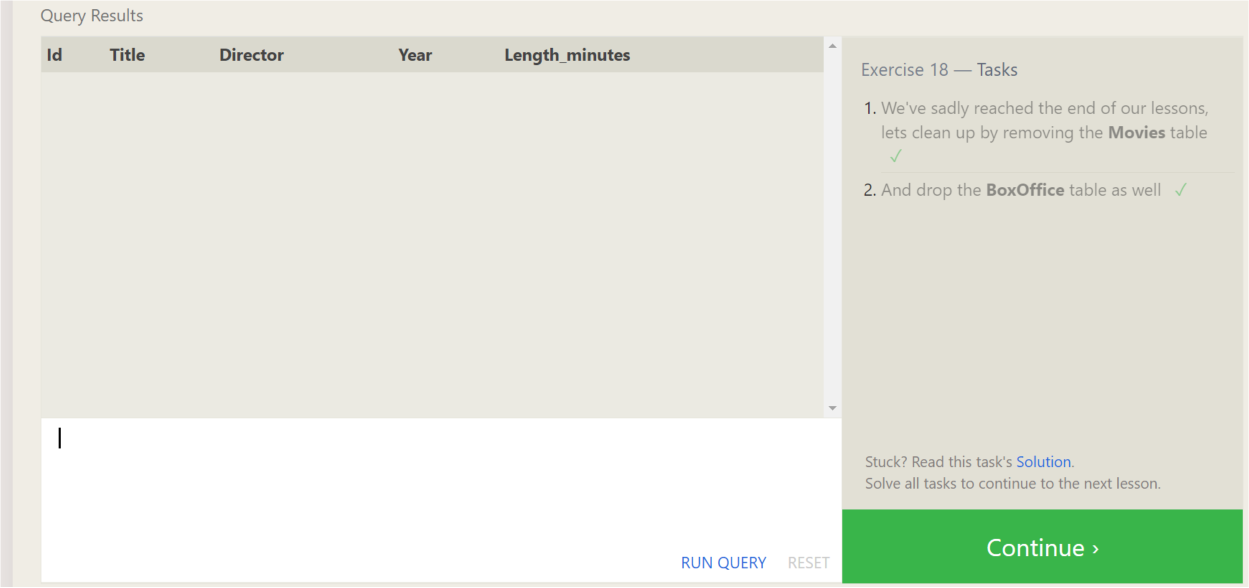
Exercise 17 — Tasks

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.

1. ALTER TABLE movies ADD Aspect_ratio FLOAT;
2. ALTER TABLE movies ADD Language TEXT DEFAULT English;

Lesson 18


Query Results

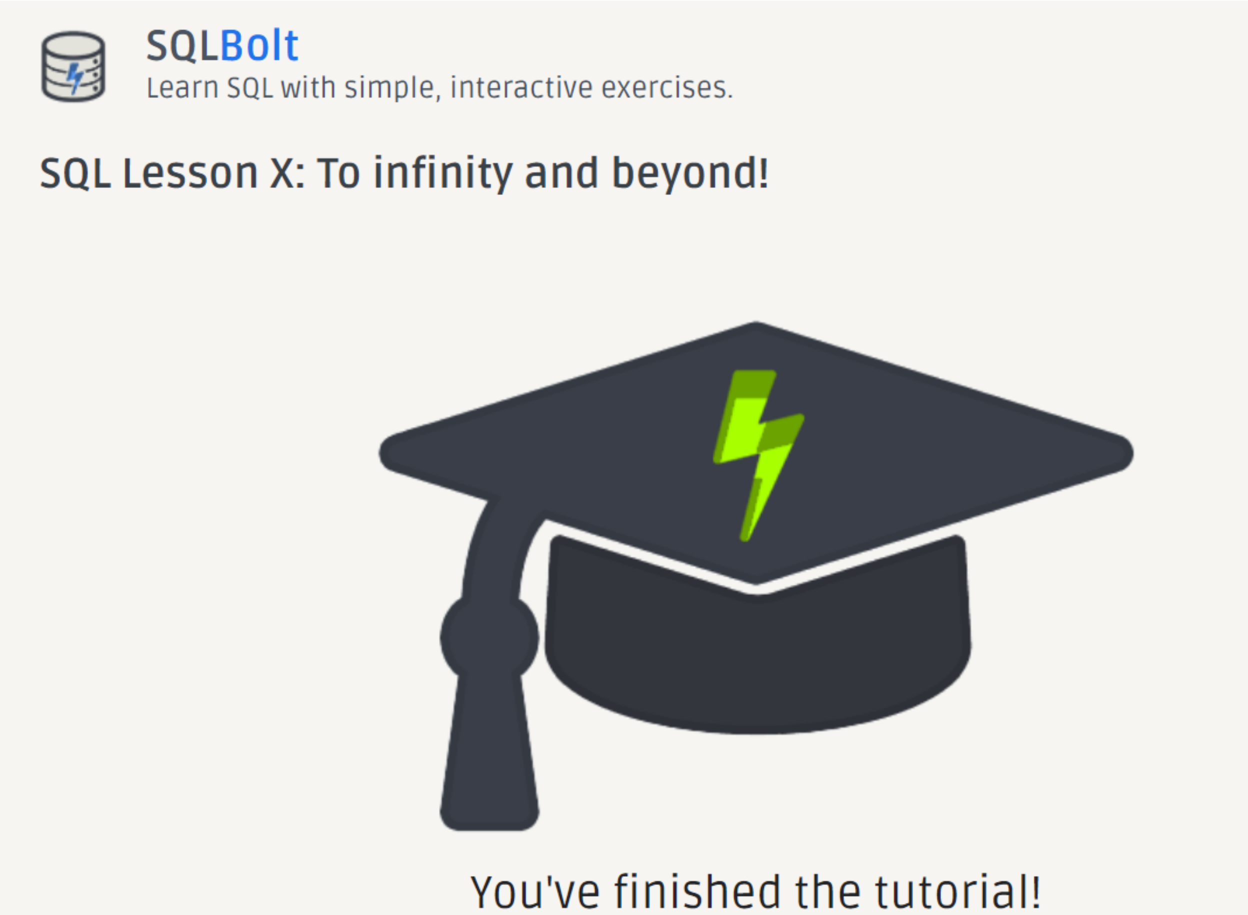
Id	Title	Director	Year	Length_minutes

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.

1. DROP TABLE IF EXISTS movies;
2. DROP TABLE IF EXISTS Boxoffice;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SQL Lesson X: To infinity and beyond!

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