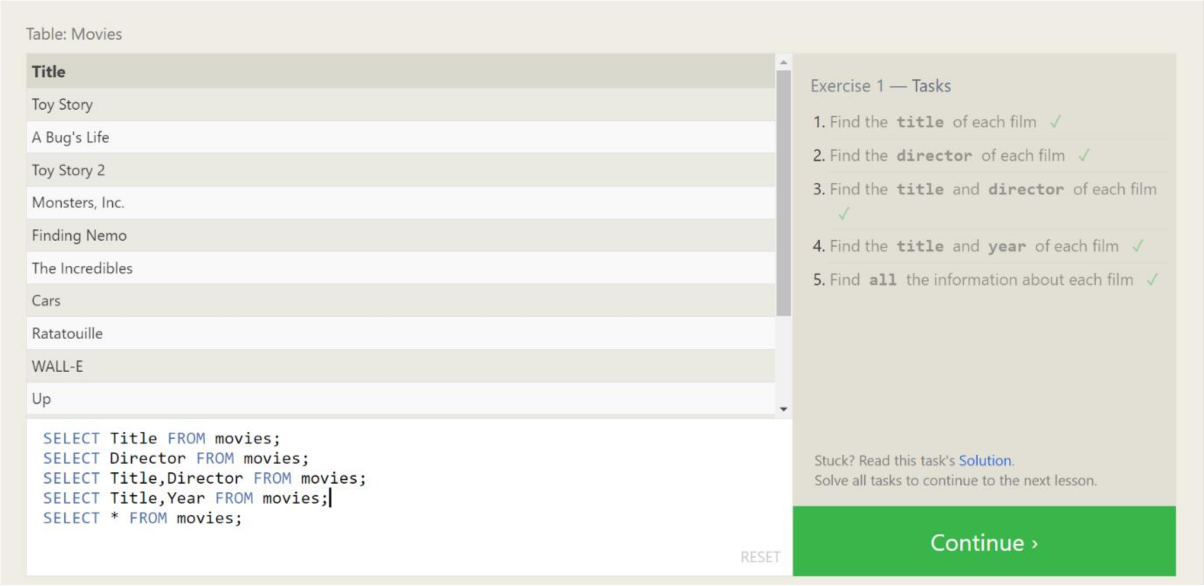


Table: Movies

| Title |
|---|
| Toy Story |
| A Bug's Life |
| Toy Story 2 |
| Monsters, Inc. |
| Finding Nemo |
| The Incredibles |
| Cars |
| Ratatouille |
| WALL-E |
| Up |

```
SELECT Title FROM movies;
SELECT Director FROM movies;
SELECT Title,Director FROM movies;
SELECT Title,Year FROM movies;
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.

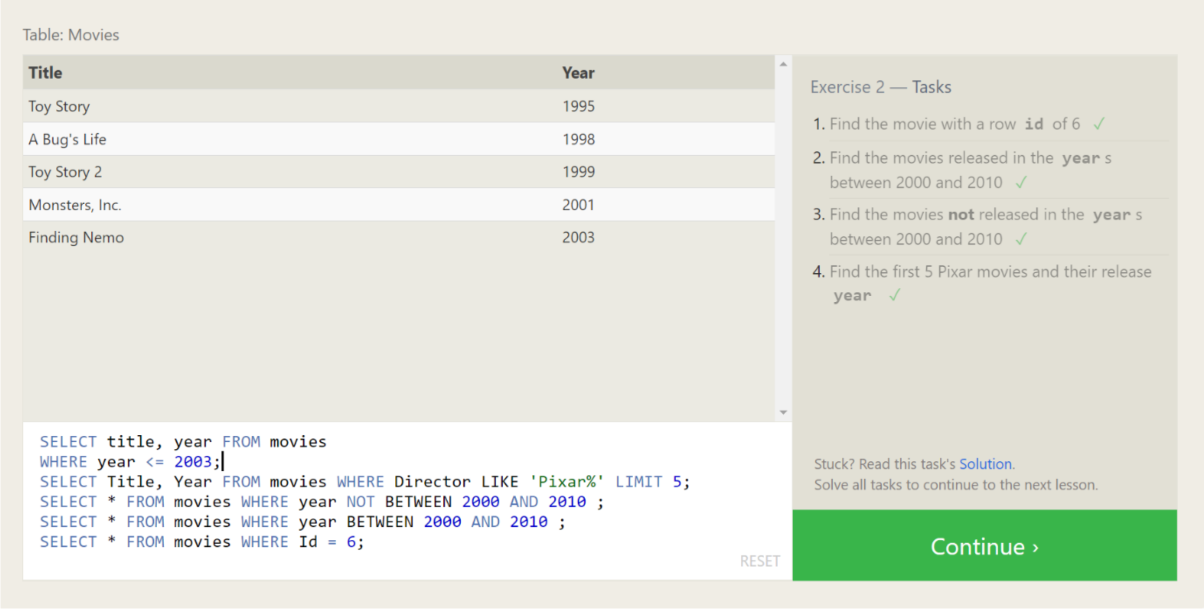


Table: Movies

| Title | Year |
|---|---|
| Toy Story | 1995 |
| A Bug's Life | 1998 |
| Toy Story 2 | 1999 |
| Monsters, Inc. | 2001 |
| Finding Nemo | 2003 |

```
SELECT title, year FROM movies
WHERE year <= 2003;
SELECT Title, Year FROM movies WHERE Director LIKE 'Pixar%' LIMIT 5;
SELECT * FROM movies WHERE year NOT BETWEEN 2000 AND 2010 ;
SELECT * FROM movies WHERE year BETWEEN 2000 AND 2010 ;
SELECT * FROM movies WHERE Id = 6;
```

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.

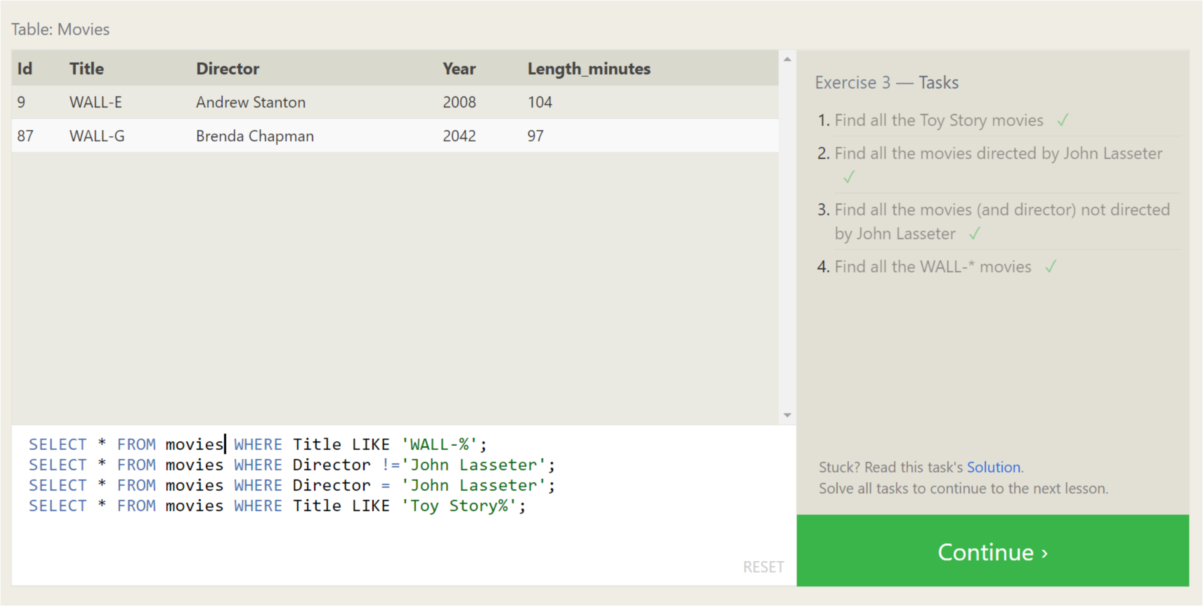


Table: Movies

| 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-%';
SELECT * FROM movies WHERE Director !='John Lasseter';
SELECT * FROM movies WHERE Director = 'John Lasseter';
SELECT * FROM movies WHERE Title LIKE 'Toy Story%';
```

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.

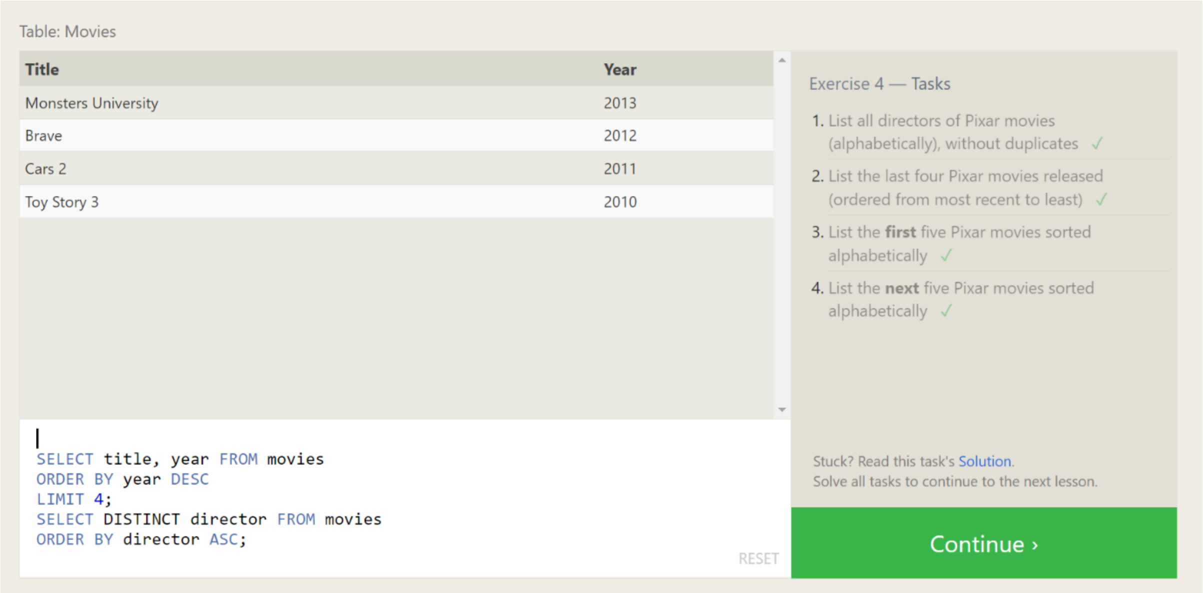


Table: Movies

| Title | Year |
|---|---|
| Monsters University | 2013 |
| Brave | 2012 |
| Cars 2 | 2011 |
| Toy Story 3 | 2010 |

```
SELECT title, year FROM movies
ORDER BY year DESC
LIMIT 4;
SELECT DISTINCT director FROM movies
ORDER BY director ASC;
```

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.

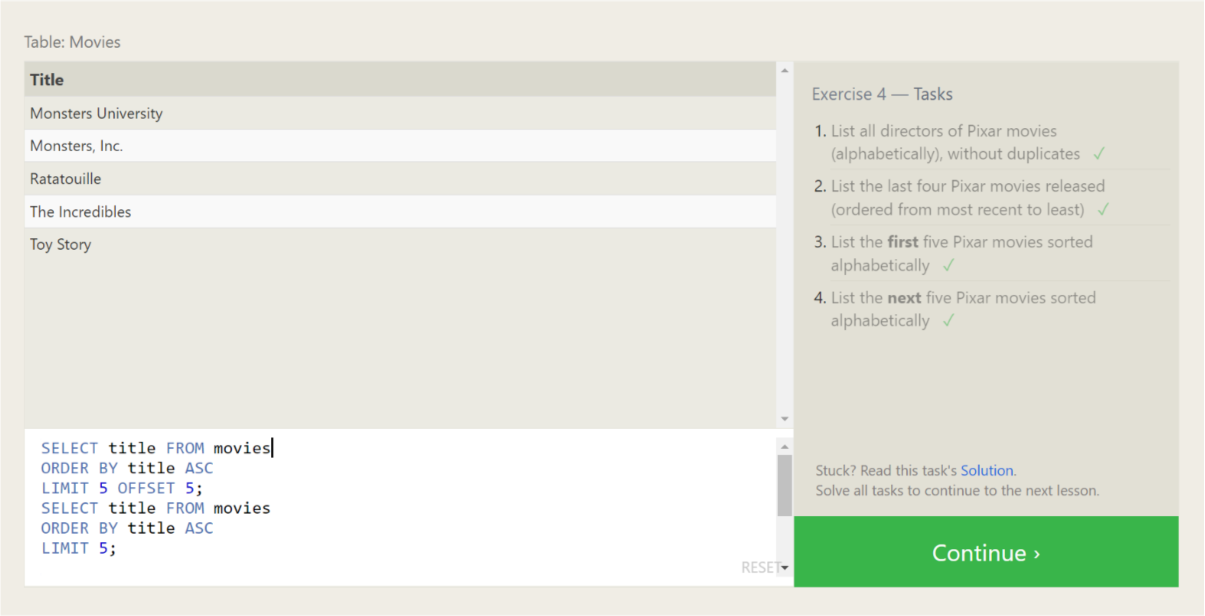


Table: Movies

| Title |
|---|
| Monsters University |
| Monsters, Inc. |
| Ratatouille |
| The Incredibles |
| Toy Story |

```
SELECT title FROM movies
ORDER BY title ASC
LIMIT 5 OFFSET 5;
SELECT title FROM movies
ORDER BY title ASC
LIMIT 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.

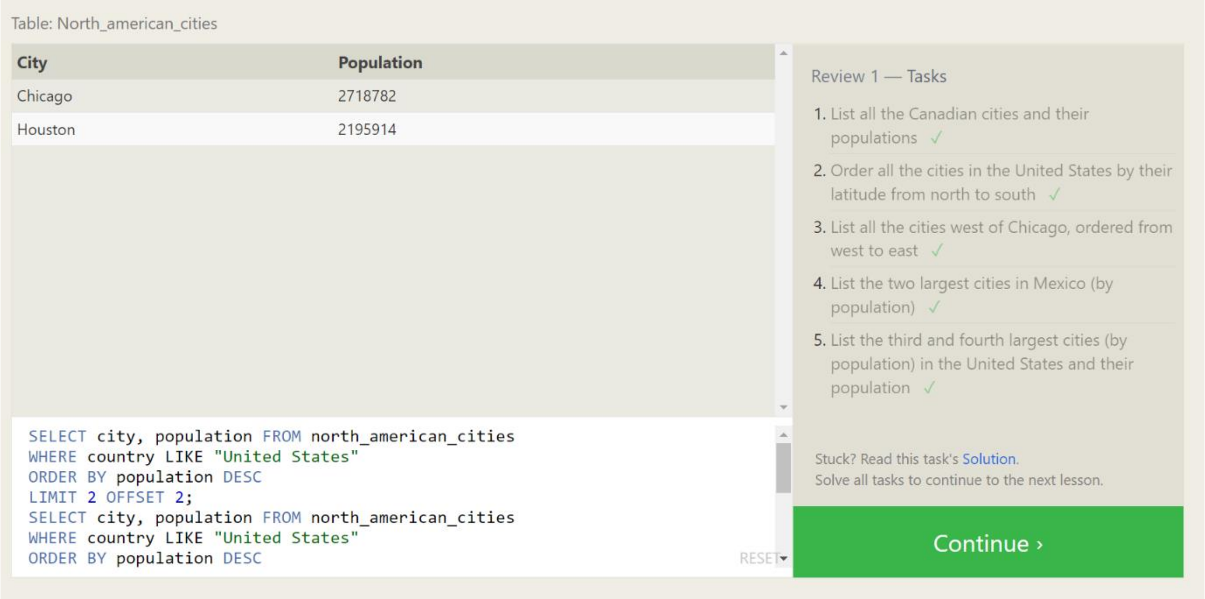


Table: North_american_cities

| City | Population |
|---|---|
| Chicago | 2718782 |
| Houston | 2195914 |

```
SELECT city, population FROM north_american_cities
WHERE country LIKE "United States"
ORDER BY population DESC
LIMIT 2 OFFSET 2;
SELECT city, population FROM north_american_cities
WHERE country LIKE "United States"
ORDER BY population DESC
```

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.

Task-5

SELECT title, ratingFROM moviesJOIN boxofficeON movies.id = boxoffice.movie_id

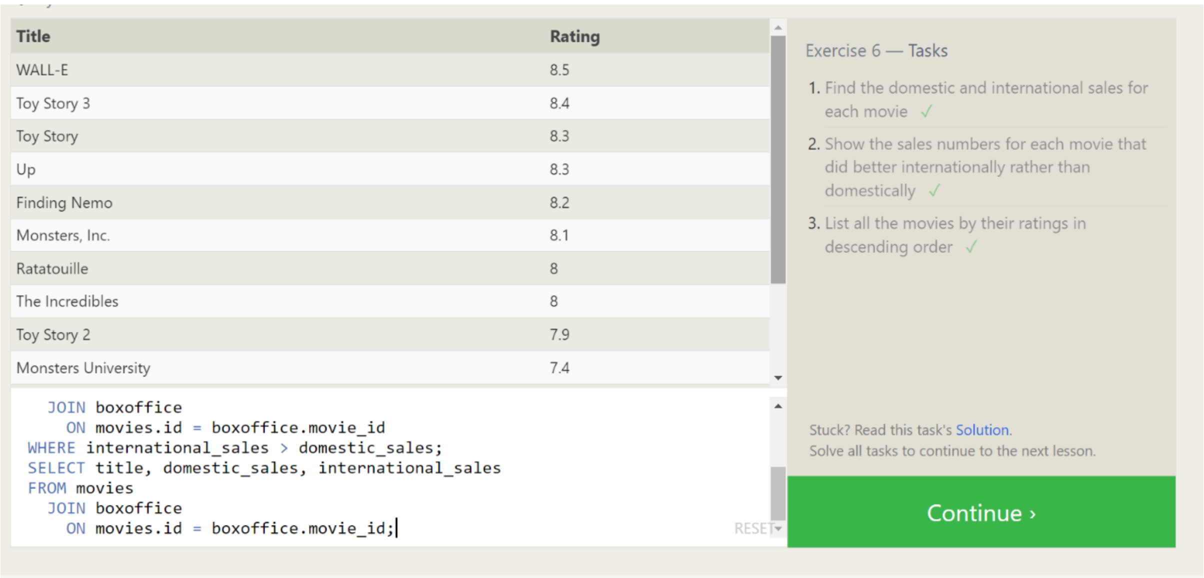
ORDER BY rating DESC;

SELECT title, domestic_sales, international_salesFROM moviesJOIN boxoffice

ON movies.id = boxoffice.movie_id WHERE international_sales > domestic_sales;

SELECT title, domestic_sales, international_sales FROM moviesJOIN boxoffice

ON movies.id = boxoffice.movie_id;



| Title | Rating |
|---|---|
| WALL-E | 8.5 |
| Toy Story 3 | 8.4 |
| Toy Story | 8.3 |
| Up | 8.3 |
| Finding Nemo | 8.2 |
| Monsters, Inc. | 8.1 |
| Ratatouille | 8 |
| The Incredibles | 8 |
| Toy Story 2 | 7.9 |
| Monsters University | 7.4 |

```
  JOIN boxoffice
    ON movies.id = boxoffice.movie_id
WHERE international_sales > domestic_sales;
SELECT title, domestic_sales, international_sales
FROM movies
  JOIN boxoffice
    ON movies.id = boxoffice.movie_id;
```

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.

Task-6

SELECT city, population FROM north_american_cities WHERE country LIKE "United States" ORDER BY population DESC LIMIT 2 OFFSET 2;

SELECT city, population FROM north_american_cities WHERE country LIKE "Mexico" ORDER BY population DESC LIMIT 2;

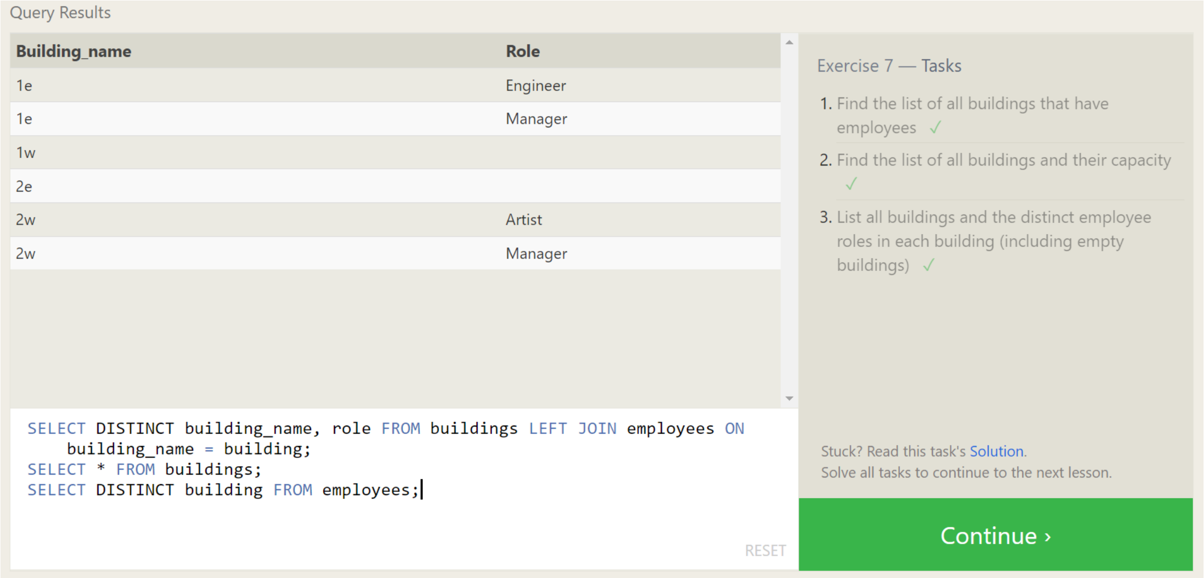
SELECT city, longitude FROM north_american_cities WHERE longitude < -87.629798

ORDER BY longitude ASC;

SELECT city, latitude FROM north_american_cities WHERE country = "United States" ORDER BY latitude DESC;

SELECT city, population FROM north_american_cities

WHERE country = "Canada";



Query Results

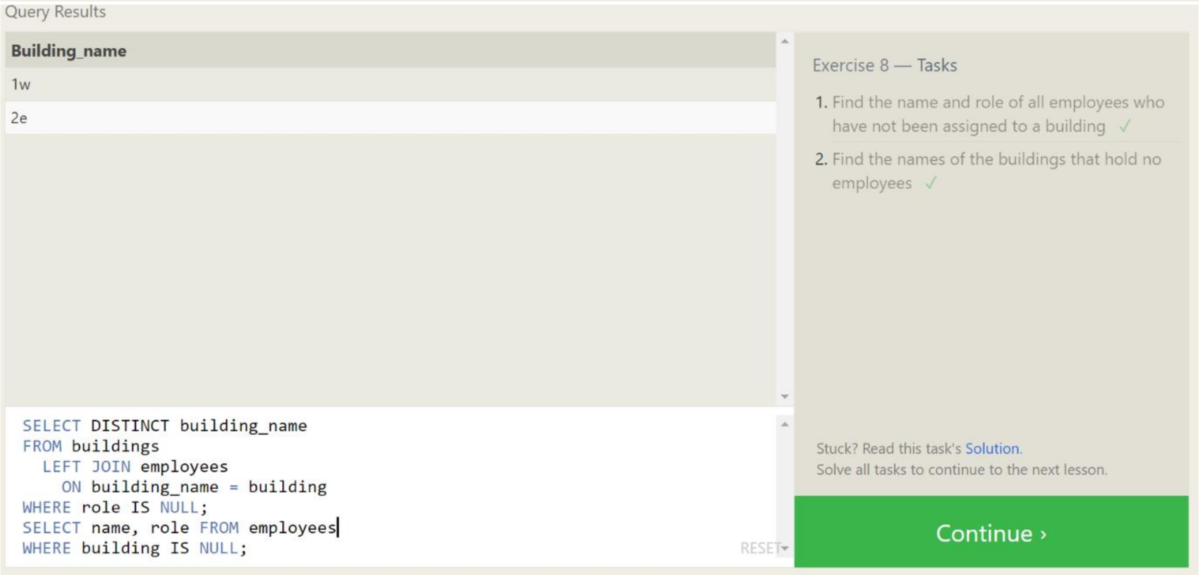
| Building_name | Role |
|---|---|
| 1e | Engineer |
| 1e | Manager |
| 1w | |
| 2e | |
| 2w | Artist |
| 2w | Manager |

```
SELECT DISTINCT building_name, role FROM buildings LEFT JOIN employees ON
    building_name = building;
SELECT * FROM buildings;
SELECT DISTINCT building FROM employees;
```

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.



Query Results

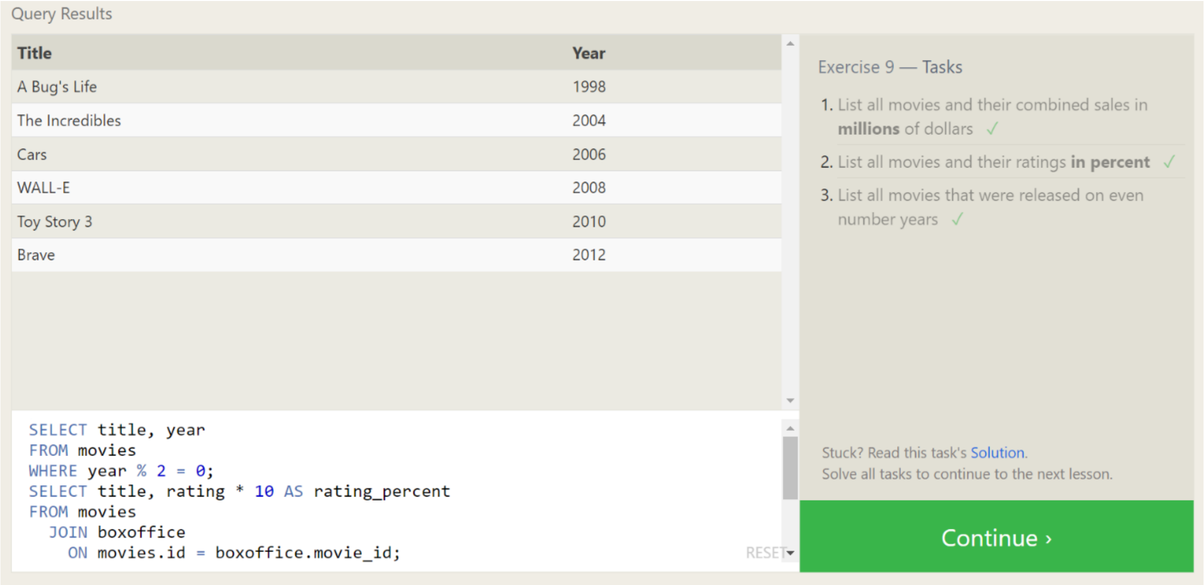
| Building_name |
|---|
| 1w |
| 2e |

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



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;
SELECT title, rating * 10 AS rating_percent
FROM movies
  JOIN boxoffice
    ON movies.id = boxoffice.movie_id;
```

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.

Task-9

```
SELECT building, SUM(years_employed) as Total_years_employed FROM employees
GROUP BY building;
SELECT role, AVG(years_employed) as Average_years_employed FROM employees
GROUP BY role;
SELECT MAX(years_employed) as Max_years_employed FROM employees;
```

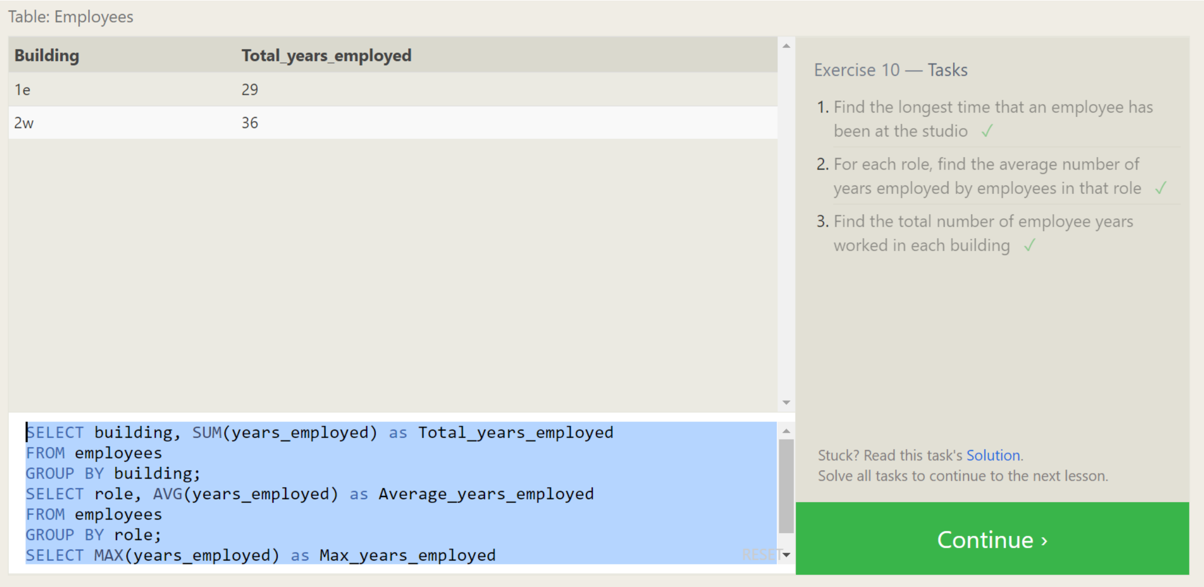


Table: Employees

| Building | Total_years_employed |
|---|---|
| 1e | 29 |
| 2w | 36 |

```
SELECT building, SUM(years_employed) as Total_years_employed
FROM employees
GROUP BY building;
SELECT role, AVG(years_employed) as Average_years_employed
FROM employees
GROUP BY role;
SELECT MAX(years_employed) as Max_years_employed
```

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.

Task-10

```
SELECT title, year FROM movies WHERE year % 2 = 0;
SELECT title, rating * 10 AS rating_percent FROM movies  JOIN boxoffice ON movies.id = boxoffice.movie_id;
SELECT title, (domestic_sales + international_sales) / 1000000 AS gross_sales_millions
FROM movies JOIN boxoffice ON movies.id = boxoffice.movie_id;
```

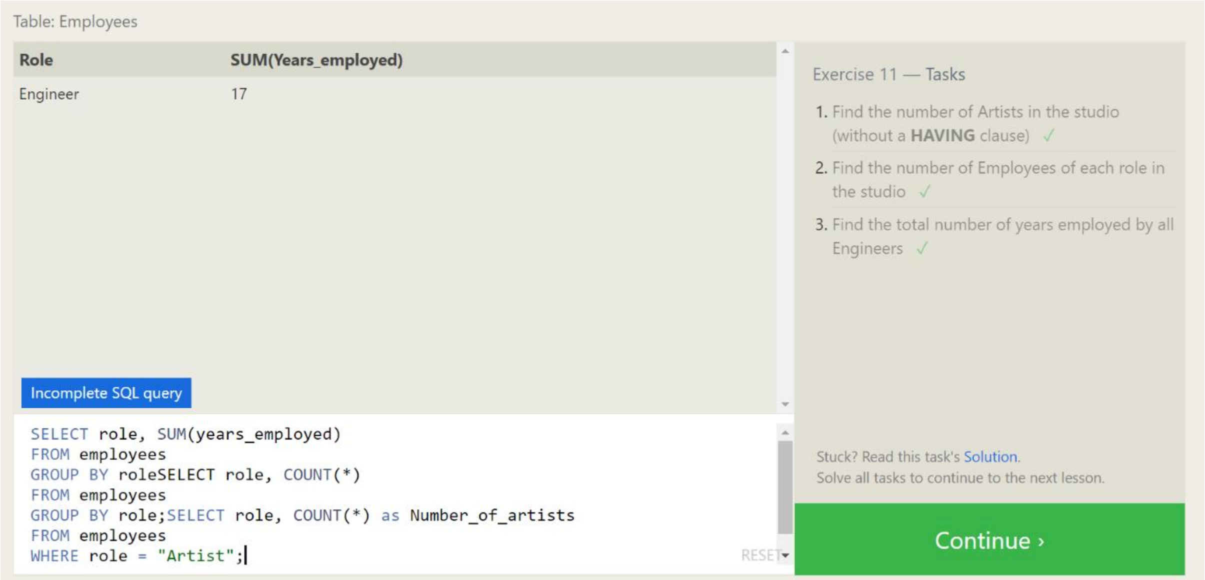


Table: Employees

| Role | SUM(Years_employed) |
|---|---|
| Engineer | 17 |

Incomplete SQL query

```
SELECT role, SUM(years_employed)
FROM employees
GROUP BY roleSELECT role, COUNT(*)
FROM employees
GROUP BY role;SELECT role, COUNT(*) as Number_of_artists
FROM employees
WHERE role = "Artist";
```

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.

Task=11

SELECT role, SUM(years_employed) FROM employees GROUP BY role;

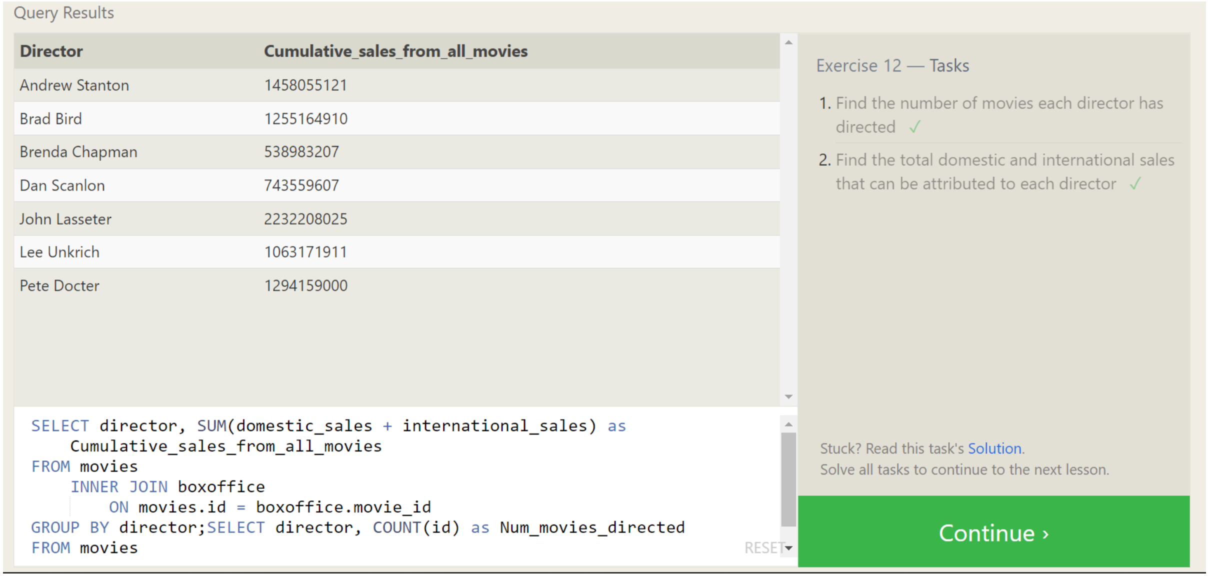
SELECT role, COUNT(*)

FROM employees

GROUP BY role;SELECT role, COUNT(*) as Number_of_artistsFROM employees

WHERE role = "Artist";

HAVING role = "Engineer";



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;SELECT director, COUNT(id) as Num_movies_directed
FROM movies
```

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.

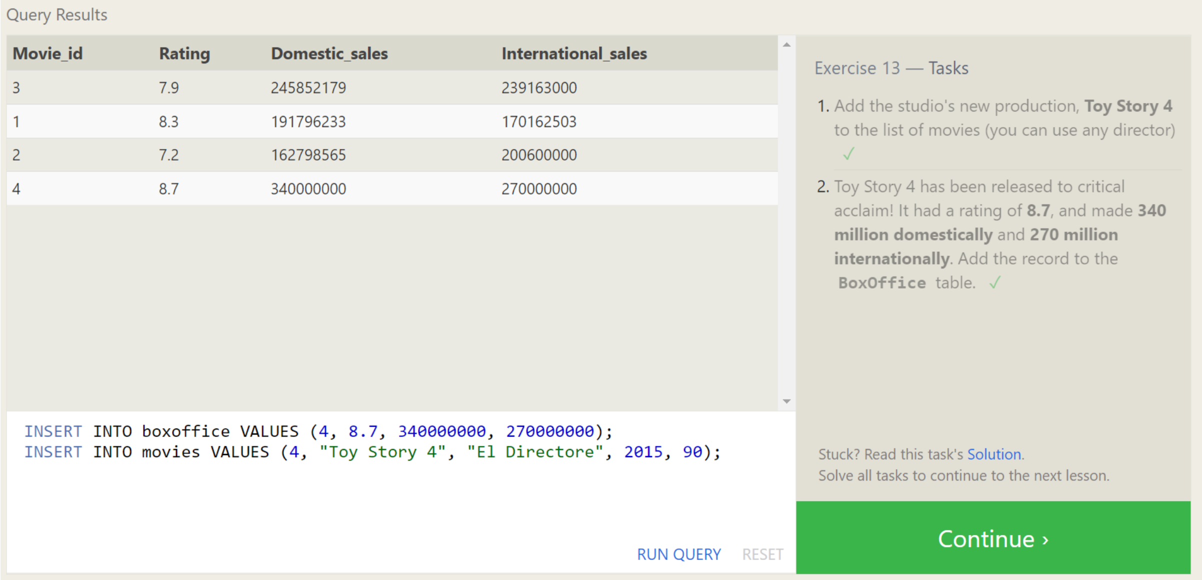
Task-12

```
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;

SELECT director, COUNT(id) as Num_movies_directedFROM movies

GROUP BY director;
```



Query Results

| 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 |

```
INSERT INTO boxoffice VALUES (4, 8.7, 340000000, 270000000);
INSERT INTO movies VALUES (4, "Toy Story 4", "El Directore", 2015, 90);
```

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.

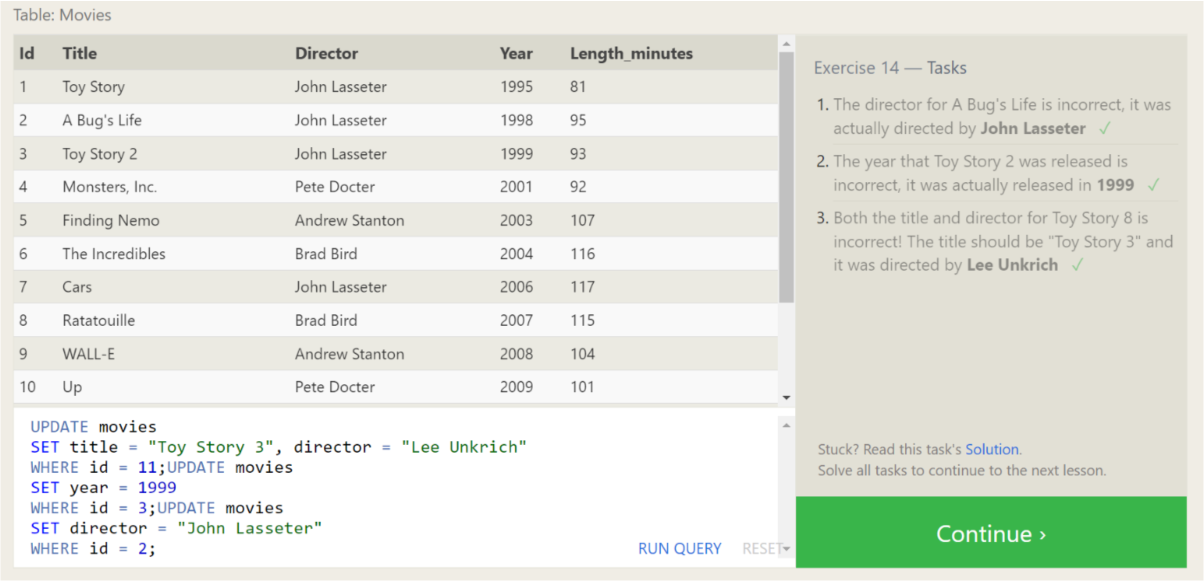


Table: Movies

| 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 |

```
UPDATE movies
SET title = "Toy Story 3", director = "Lee Unkrich"
WHERE id = 11;UPDATE movies
SET year = 1999
WHERE id = 3;UPDATE movies
SET director = "John Lasseter"
WHERE id = 2;
```

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.

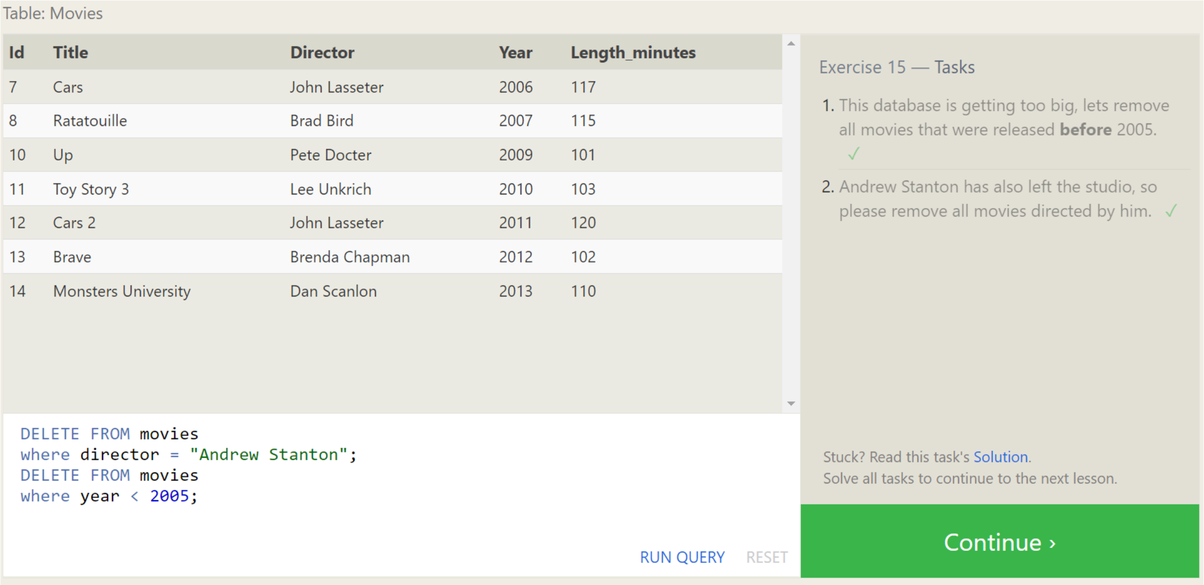


Table: Movies

| 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 |

```
DELETE FROM movies
where director = "Andrew Stanton";
DELETE FROM movies
where year < 2005;
```

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.

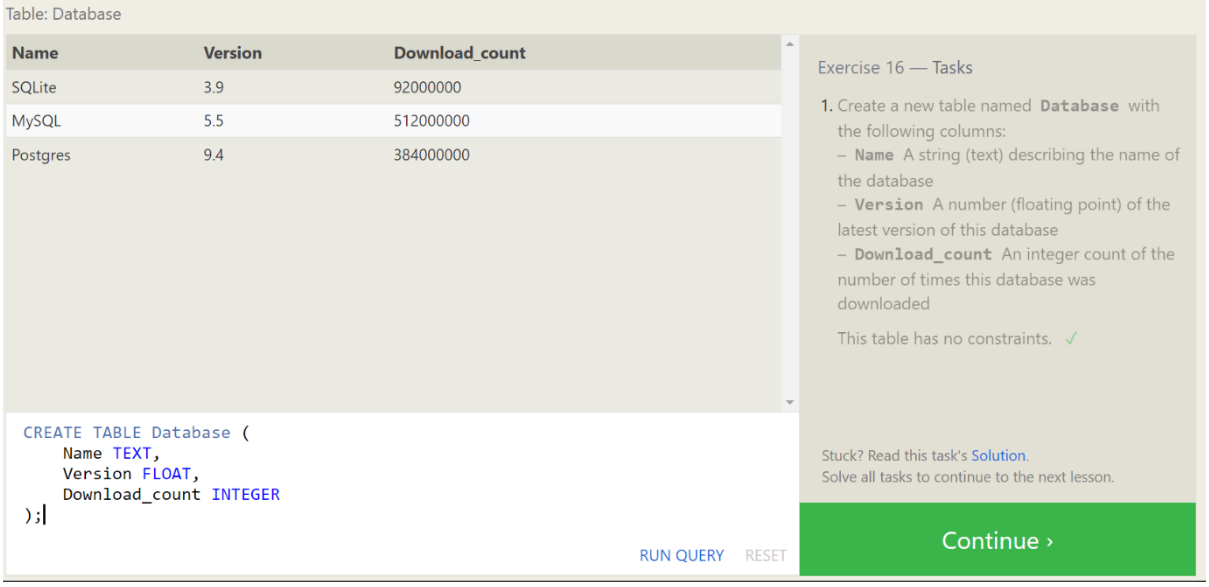


Table: Database

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

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

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.

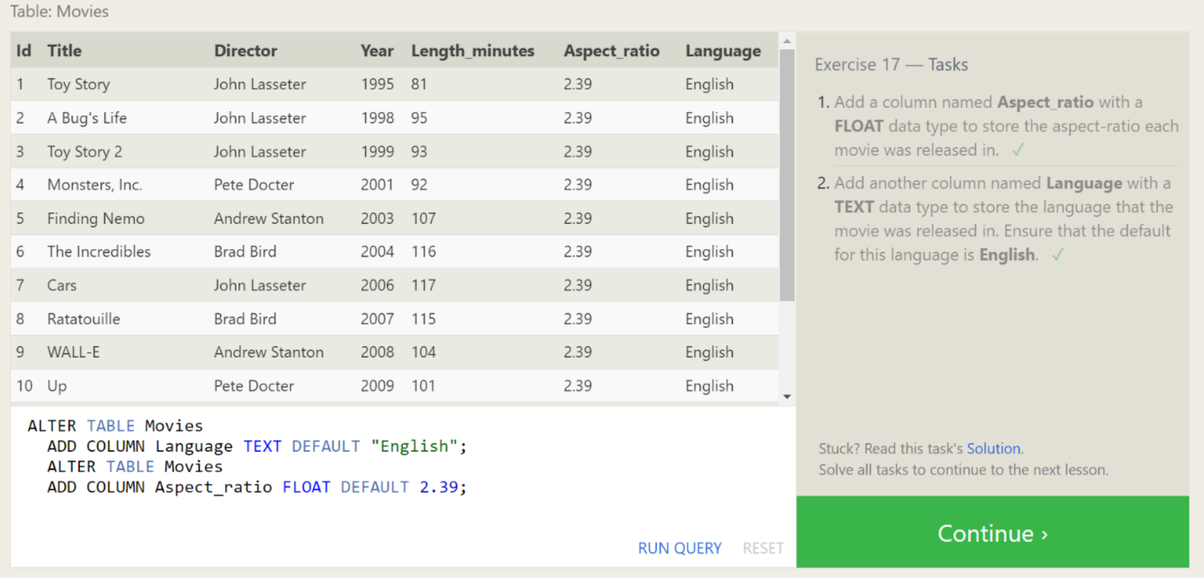


Table: Movies

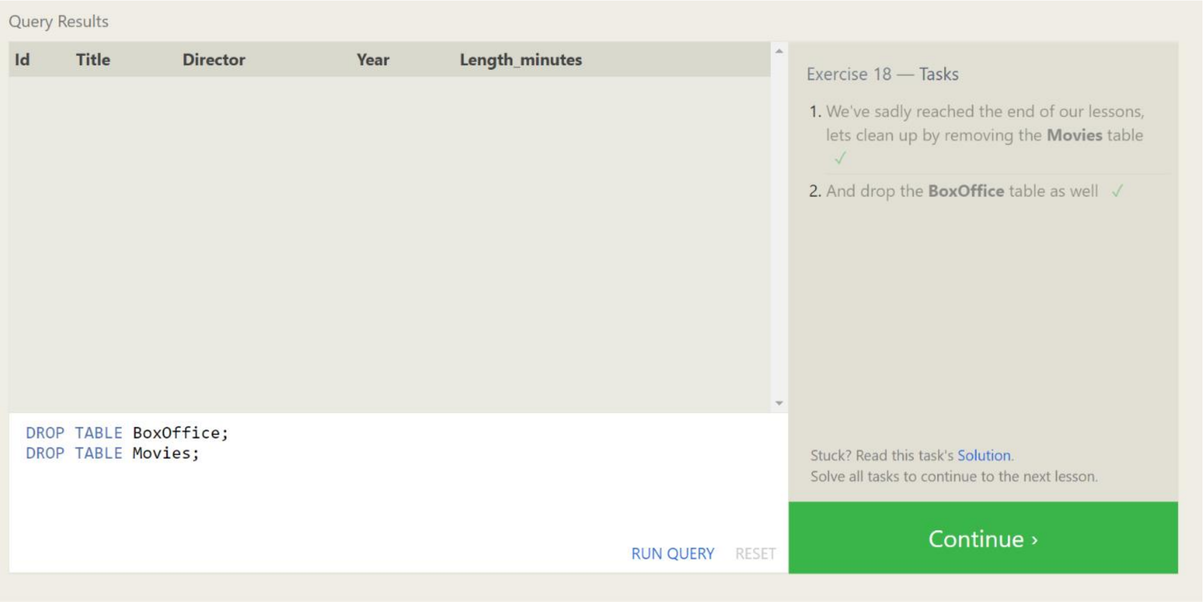
| Id | Title | Director | Year | Length_minutes | Aspect_ratio | Language |
|---|---|---|---|---|---|---|
| 1 | Toy Story | John Lasseter | 1995 | 81 | 2.39 | English |
| 2 | A Bug's Life | John Lasseter | 1998 | 95 | 2.39 | English |
| 3 | Toy Story 2 | John Lasseter | 1999 | 93 | 2.39 | English |
| 4 | Monsters, Inc. | Pete Docter | 2001 | 92 | 2.39 | English |
| 5 | Finding Nemo | Andrew Stanton | 2003 | 107 | 2.39 | English |
| 6 | The Incredibles | Brad Bird | 2004 | 116 | 2.39 | English |
| 7 | Cars | John Lasseter | 2006 | 117 | 2.39 | English |
| 8 | Ratatouille | Brad Bird | 2007 | 115 | 2.39 | English |
| 9 | WALL-E | Andrew Stanton | 2008 | 104 | 2.39 | English |
| 10 | Up | Pete Docter | 2009 | 101 | 2.39 | English |

```
ALTER TABLE Movies
  ADD COLUMN Language TEXT DEFAULT "English";
  ALTER TABLE Movies
  ADD COLUMN Aspect_ratio FLOAT DEFAULT 2.39;
```

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.



Query Results

| Id | Title | Director | Year | Length_minutes |
|---|---|---|---|---|

```
DROP TABLE BoxOffice;
DROP TABLE Movies;
```

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.