

properties of each movie. To continue onto the next lesson, alter the query to find the exact information we need for each task.

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.

[Continue >](#)

RESET

Exercise

Using the right constraints, find the information we need from the **Movies** table for each task below.

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 ID <= 5
```

Exercise 2 — Tasks

- Find the movie with a row **id** of 6 ✓
- Find the movies released in the **year** s between 2000 and 2010 ✓
- Find the movies **not** released in the **year** s between 2000 and 2010 ✓
- 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.

Continue >

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-%"
```

RESET

#### 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.

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Next – SQL Lesson 4: Filtering and sorting Query results  
 Previous – SQL Lesson 2: Queries with constraints (Pt. 1)

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we've gone and scrambled the **movies** table for you in the exercise to better mimic what kind of data you might see in real life. Try and use the necessary keywords and clauses introduced above in your queries.

Table: Movies

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

```
SELECT * FROM movies ORDER BY TITLE LIMIT 5 OFFSET 5
```

RESET

#### 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.

Continue >

lesson to learn about queries that span multiple tables.

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 LIKE "United States" ORDER BY Population DESC LIMIT 2 OFFSET 2
```

RESET

#### 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.

Continue >

6	The Incredibles	Brad Bird	2004	116	6	8	261441092	370001000
---	-----------------	-----------	------	-----	---	---	-----------	-----------

Query Results

Id	Title	Domestic_sales	International_sales
9	WALL-E	223808164	297503696
11	Toy Story 3	415004880	648167031
1	Toy Story	191796233	170162503
10	Up	293004164	438338580
5	Finding Nemo	380843261	555900000
4	Monsters, Inc.	289916256	272900000
8	Ratatouille	206445654	417277164
6	The Incredibles	261441092	370001000
3	Toy Story 2	245852179	239163000
14	Monsters University	268492764	475066843

```
SELECT ID,TITLE,Domestic_sales,International_sales  
FROM movies JOIN Boxoffice  
ON movies.id = Boxoffice.Movie_id  
ORDER BY RATING DESC
```

RESET

#### 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.

Continue >

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Manager	Shirlee M.	1e	3
Manager	Daria O.	2w	6

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
```

RESET

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.

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Artist	Brandon J.	2w	7
Manager	Scott K.	1e	9

Query Results

Building\_name

1w

2e

SELECT BUILDING\_NAME FROM BUILDINGS LEFT JOIN EMPLOYEES ON BUILDINGS  
.BUILDING\_NAME = EMPLOYEES.BUILDING WHERE NAME IS NULL

RESET

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.

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6	The Incredibles	Brad Bird	2004	116	6	8	261441092	370001000
---	-----------------	-----------	------	-----	---	---	-----------	-----------

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 left join boxoffice on movies.id=boxoffice
.movie_id where year%2 = 0
```

RESET

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.

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SQL

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metrics about the teams. Go ahead and give it a shot.

Table: Employees

Building	Sum(Years_employed)
1e	29
2w	36

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.

Continue >

```
select building,sum(Years_employed)from Employees group by building
```

RESET

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For this exercise, you are going to dive deeper into **Employee** data at the film studio. Think about the different clauses you want to apply for each task.

Table: Employees

Role	Sum(Years_employed)
Engineer	17

```
select Role,sum(Years_employed) from Employees where role="Engineer"
```

RESET

Exercise 11 — Tasks

- Find the number of Artists in the studio (without a **HAVING** clause) ✓
- Find the number of Employees of each role in the studio ✓
- 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.

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Query Results

Director	Cummulative_sales
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) +
sum(International_sales) as cummulative_sales
from Movies
join Boxoffice on movies.Id= Boxoffice.Movie_id group by Director
```

RESET

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.

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Next – [SQL Lesson 13: Inserting rows](#)

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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

RUN QUERYRESET

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.

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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

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.

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Next – [SQL Lesson 15: Deleting rows](#)  
Previous – [SQL Lesson 13: Inserting rows](#)

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sqlbolt.com/lesson/deleting\_rows

The database needs to be cleaned up a little bit, so try and delete a few rows in the tasks below.

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.

Continue >

RUN QUERY

RESET

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In this exercise, you'll need to create a new table for us to insert some new rows into.

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.

[RUN QUERY](#) [RESET](#) [Continue >](#)

SQL

sqlbolt.com/lesson/altering\_tables

Table: Movies

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

RUN QUERY

RESET

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.

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Next – SQL Lesson 18: Dropping tables

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sqlbolt.com/lesson/dropping\_tables

Query Results

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

RUN QUERYRESET

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.

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## 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.

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