

SQL – DAY1 TASK

1. SQL Lesson 1: SQL Select queries

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;`

RESET

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.

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Next – [SQL Lesson 2: Queries with constraints \(Pt. 1\)](#)
Previous – [Introduction to SQL](#)

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2. SQL Lesson 4: Queries with Constraints – pt.1

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;`

RESET

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** ✓

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Next – [SQL Lesson 3: Queries with constraints \(Pt. 2\)](#)
Previous – [SQL Lesson 1: SELECT queries 101](#)

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3. SQL Lesson 3: Queries with constraints (Pt. 2)

Table: Movies

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

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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4. SQL Lesson 4: Filtering and sorting Query results

Table: Movies

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

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.

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

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5. SQL Review: Simple SELECT Queries

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
```

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.

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Next – [SQL Lesson 6: Multi-table queries with JOINS](#)
Previous – [SQL Lesson 4: Filtering and sorting Query results](#)

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6. SQL Lesson 6: Multi-table queries with JOINS

Query Results

Id	Title	Director	Year	Length_minutes	Movie_id	Rating	Domestic_sales	International_sales
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
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.

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Next – [SQL Lesson 7: OUTER JOINS](#)
Previous – [SQL Review: Simple SELECT Queries](#)

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7. SQL Lesson 7: OUTER JOINS

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 Buildings.Building_name = employees.Building
```

RESET

Exercise 7 — Tasks

- Find the list of all buildings that have employees ✓
- Find the list of all buildings and their capacity ✓
- 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.

Continue ›

Next – [SQL Lesson 8: A short note on NULLs](#)
Previous – [SQL Lesson 6: Multi-table queries with JOINS](#)

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8. SQL Lesson 8: A short note on NULLs

Query Results

Building_name	Capacity	Role	Name	Building	Years_employed
1w	32				
2e	16				

```
SELECT * FROM buildings
LEFT JOIN employees
ON buildings.building_name = employees.building
WHERE role IS NULL
```

RESET

Exercise 8 — Tasks

- Find the name and role of all employees who have not been assigned to a building ✓
- 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.

Continue ›

Next – [SQL Lesson 9: Queries with expressions](#)
Previous – [SQL Lesson 7: OUTER JOINS](#)

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9. SQL Lesson 9: Queries with expressions

Query Results

Id	Title	Director	Year	Length_minutes	Movie_id	Rating	Domestic_sales	International_sales
6	The Incredibles	Brad Bird	2004	116	6	8	261441092	370001000
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
7	Cars	John Lasseter	2006	117	7	7.2	244082982	217900167
2	A Bug's Life	John Lasseter	1998	95	2	7.2	162798565	200600000
13	Brave	Brenda Chapman	2012	102	13	7.2	237283207	301700000

```
SELECT * from movies
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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Next – [SQL Lesson 10: Queries with aggregates \(Pt. 1\)](#)
Previous – [SQL Lesson 8: A short note on NULLs](#)

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10. SQL Lesson 10: Queries with aggregates (Pt. 1)

Table: Employees

Building	SUM(Years_employed)
1e	29
2w	36

```
SELECT building,SUM(years_employed) FROM employees
GROUP BY building
```

RESET

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.

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

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11. SQL Lesson 11: Queries with aggregates (Pt. 2)

Table: Employees

Role	Total_YEARS
Engineer	17

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.

Continue >

SELECT role,SUM(years_employed) AS total_YEARS FROM employees
GROUP BY role HAVING role="Engineer"

RESET

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

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12. SQL Lesson 12: Order of execution of a Query

Query Results

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

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.

Continue >

SELECT director,(SUM(domestic_sales) + SUM(international_sales)) AS sales
FROM movies
JOIN Boxoffice
ON movies.Id = Boxoffice.Movie_id
GROUP BY director

RESET

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

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13. SQL Lesson 13: Inserting rows

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

RUN QUERY RESET

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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Next – [SQL Lesson 14: Updating rows](#)

Previous – [SQL Lesson 12: Order of execution of a Query](#)

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14. SQL Lesson 14: Updating rows

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

RUN QUERY RESET

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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15. SQL Lesson 15: Deleting rows

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

RUN QUERYRESET

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.

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Next – [SQL Lesson 16: Creating tables](#)
Previous – [SQL Lesson 14: Updating rows](#)

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16. SQL Lesson 16: Creating tables

Table: Database

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

RUN QUERYRESET

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 downloadedThis table has no constraints. ✓

Stuck? Read this task's [Solution](#).
Solve all tasks to continue to the next lesson.

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Next – [SQL Lesson 17: Altering tables](#)
Previous – [SQL Lesson 15: Deleting rows](#)

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17. SQL Lesson 17: Altering tables

Table: Movies

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

[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](#)
Previous – [SQL Lesson 16: Creating tables](#)

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18. SQL Lesson 18: Dropping tables

Query Results

Id	Title	Director	Year	Length_minutes
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[Table dropped](#)

`DROP TABLE BOXoffice`

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

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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Next – [SQL Lesson X: To infinity and beyond!](#)
Previous – [SQL Lesson 17: Altering tables](#)

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SQL Lesson X: To infinity and beyond!



You've finished the tutorial!