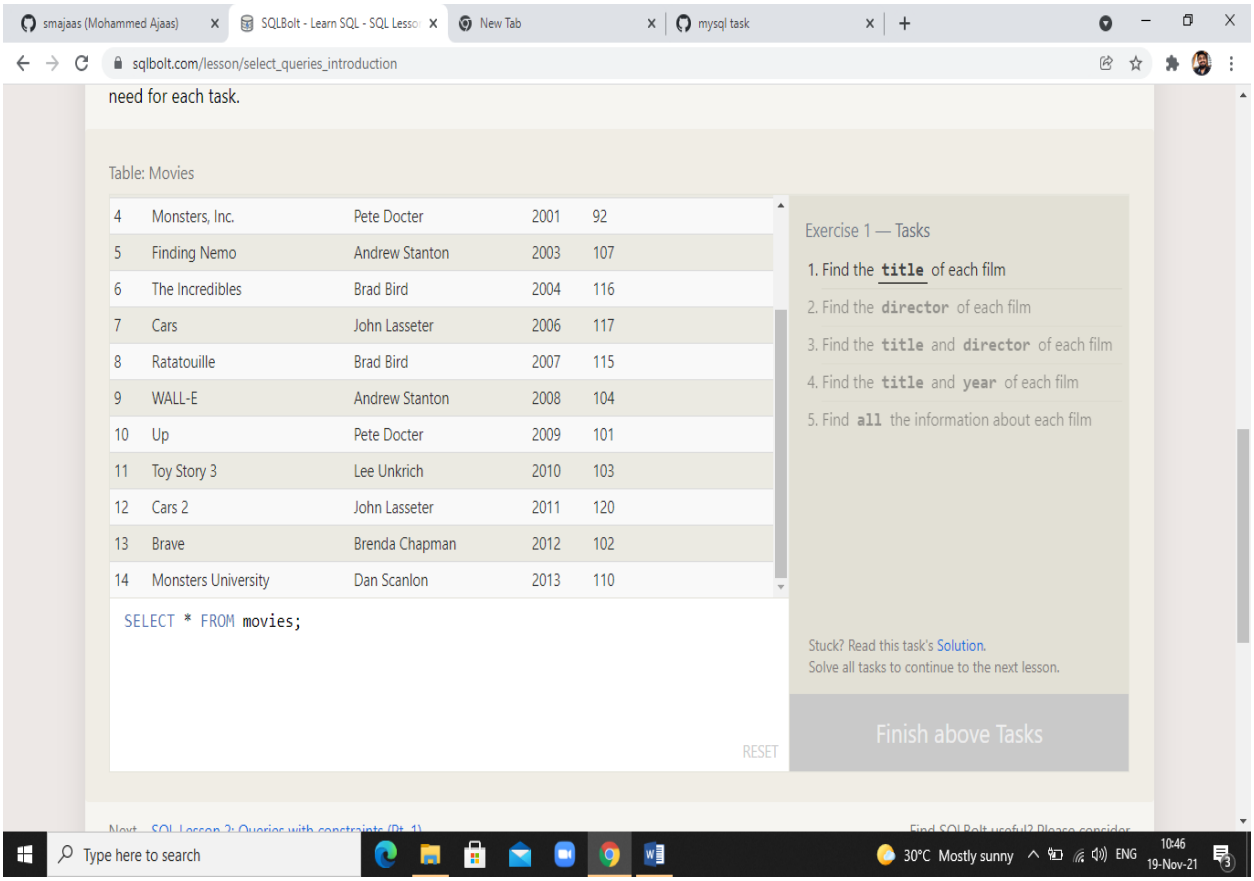
# This Exercise from https://sqlbolt.com/

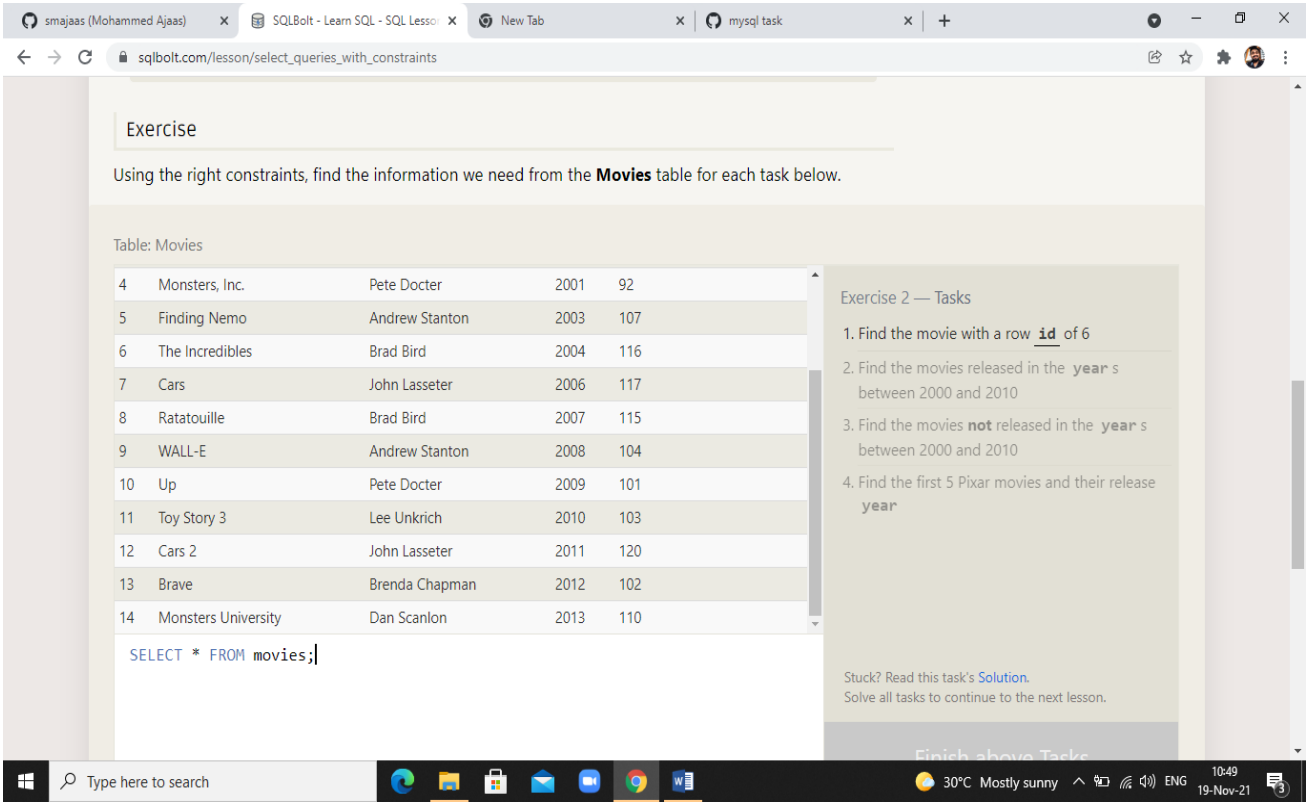
# SQL Lesson 1: SELECT queries 101




Answers :

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;

# SQL Lesson 2: Queries with constraints (Pt. 1)




Answers :

1. SELECT * FROM movies where id >= 6
2. SELECT * FROM movies where year between 2000 and 2010
3. SELECT * FROM movies where year Not between 2000 and 2010
4. SELECT * FROM movies WHERE id <=5;

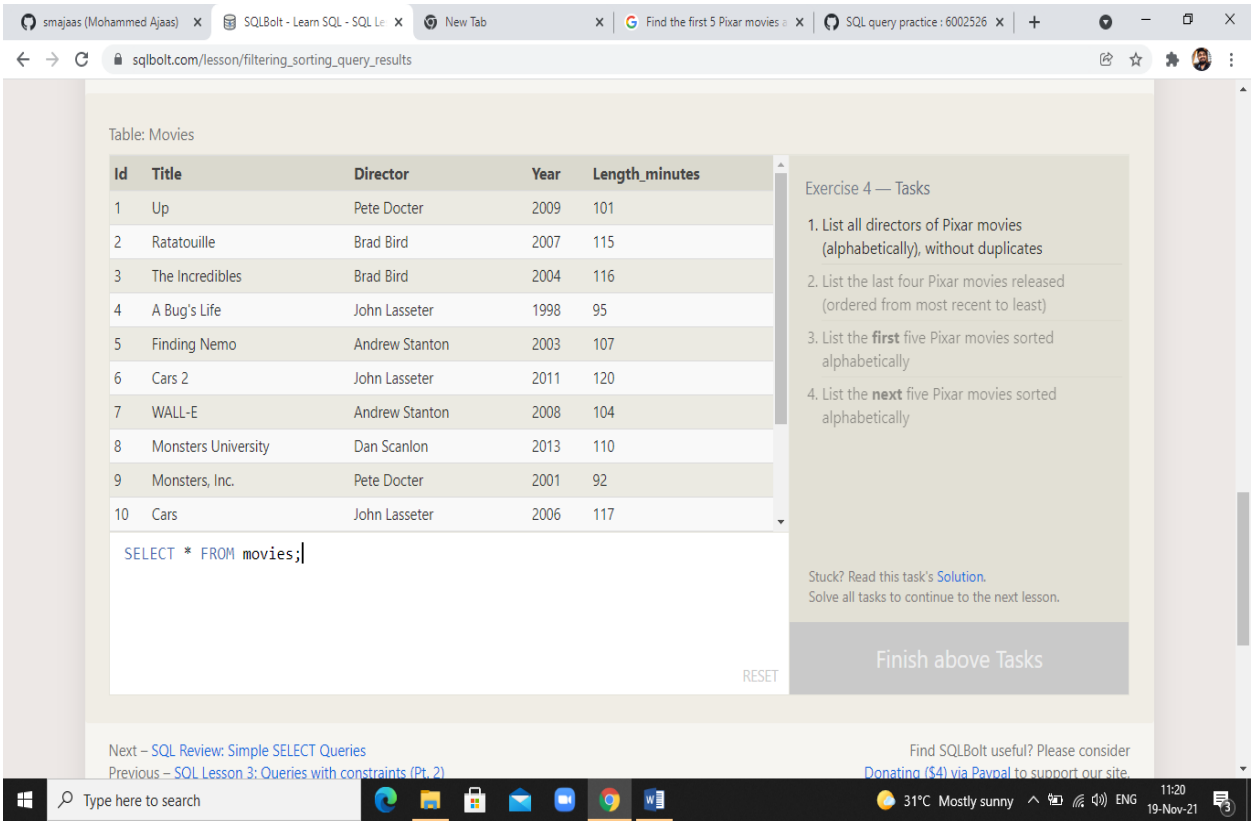
# SQL Lesson 3: Queries with constraints (Pt. 2)

Answers :

1. SELECT title FROM movies where title Like "Toy Story%";

2. SELECT *FROM movies where director= "John Lasseter";
3. SELECT *FROM movies where director!= "John Lasseter";
4. SELECT * FROM movies where title like "WALL-%";

# SQL Lesson 4: Filtering and sorting Query results




# Answers :

1. SELECT distinct director FROM movies
   order by director;
2. SELECT DISTINCT title FROM movies
   ORDER BY year DESC LIMIT 4;
3. SELECT title FROM movies
   ORDER BY title LIMIT 5;

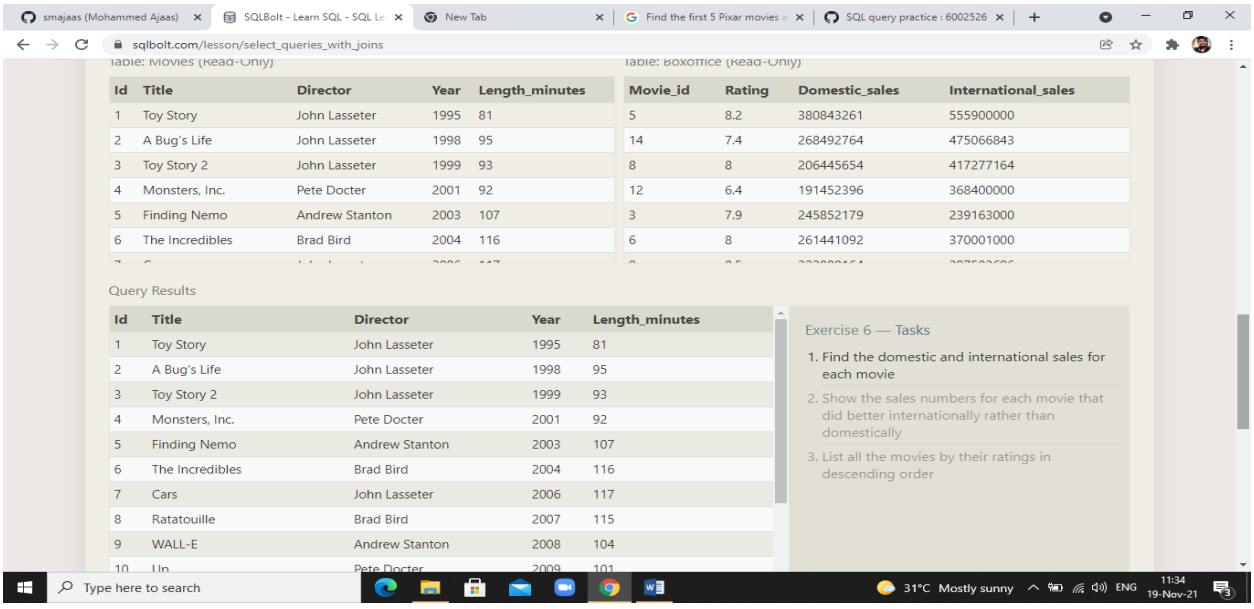
4. SELECT title FROM movies
   ORDER BY title LIMIT 5 OFFSET 5;

## Lesson:5 SQL Review: Simple SELECT Queries

## Answers :

1. SELECT city, population
FROM north_american_cities
WHERE country = "Canada";
2. SELECT city FROM north_american_cities WHERE country = "United States" ORDER BY latitude DESC
3. SELECT city FROM north_american_citiesWHERE longitude < -87.629798 BY longitude ASC;
4. SELECT city FROM north_american_cities WHERE country = "Mexico" ORDER BY population DESC LIMIT 2;
5. SELECT city FROM north_american_cities WHERE country = "United States" ORDER BY population DESC LIMIT 2 OFFSET 2;

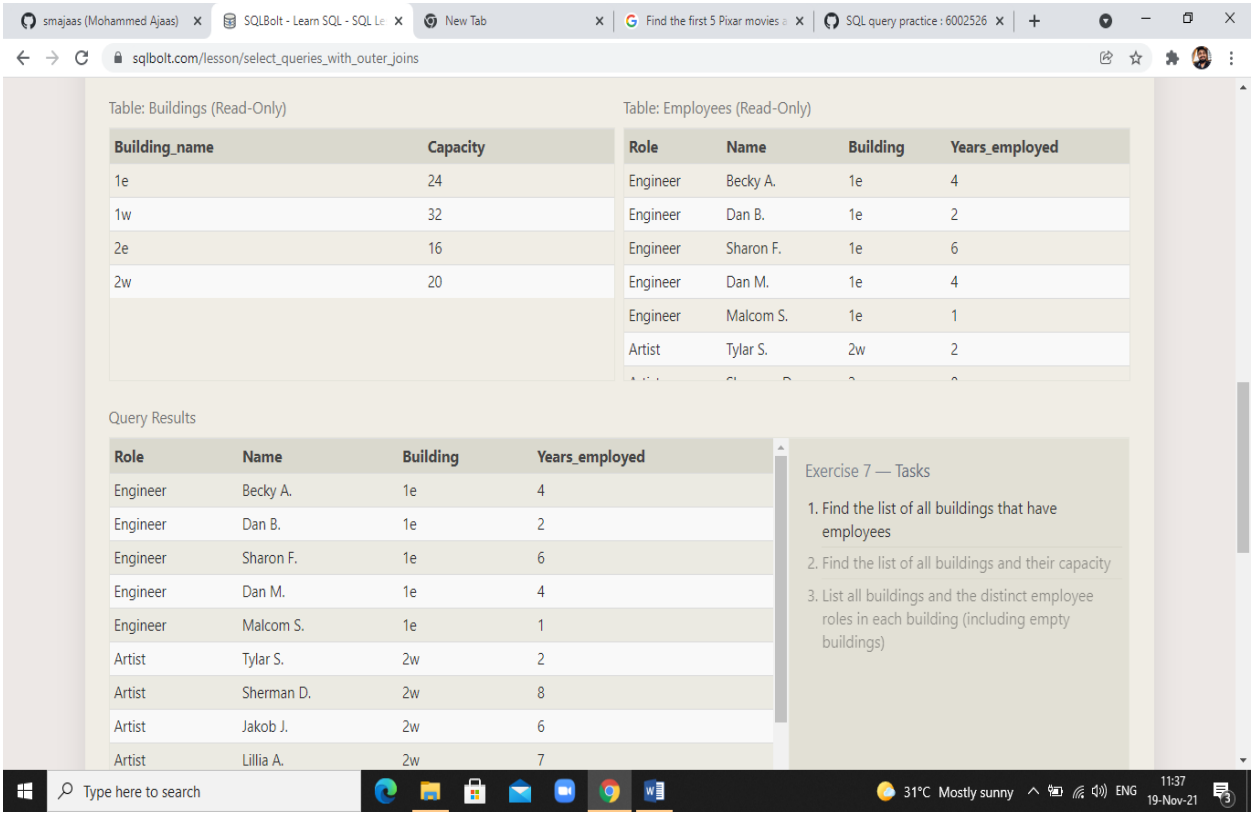
## SQL Lesson 6: Multi-table queries with JOINs



## Answers :

1. SELECT title, domestic_sales, international_sales FROM movies INNER JOIN boxoffice ON movies.id = boxoffice.movie_id;
2. SELECT title, domestic_sales, international_sales FROM movies INNER JOIN boxoffice ON movies.id = boxoffice.movie_id WHERE international_sales > domestic_sales;
3. SELECT title, rating FROM movies INNER JOIN boxoffice ON movies.id = boxoffice.movie_id ORDER BY rating DESC;

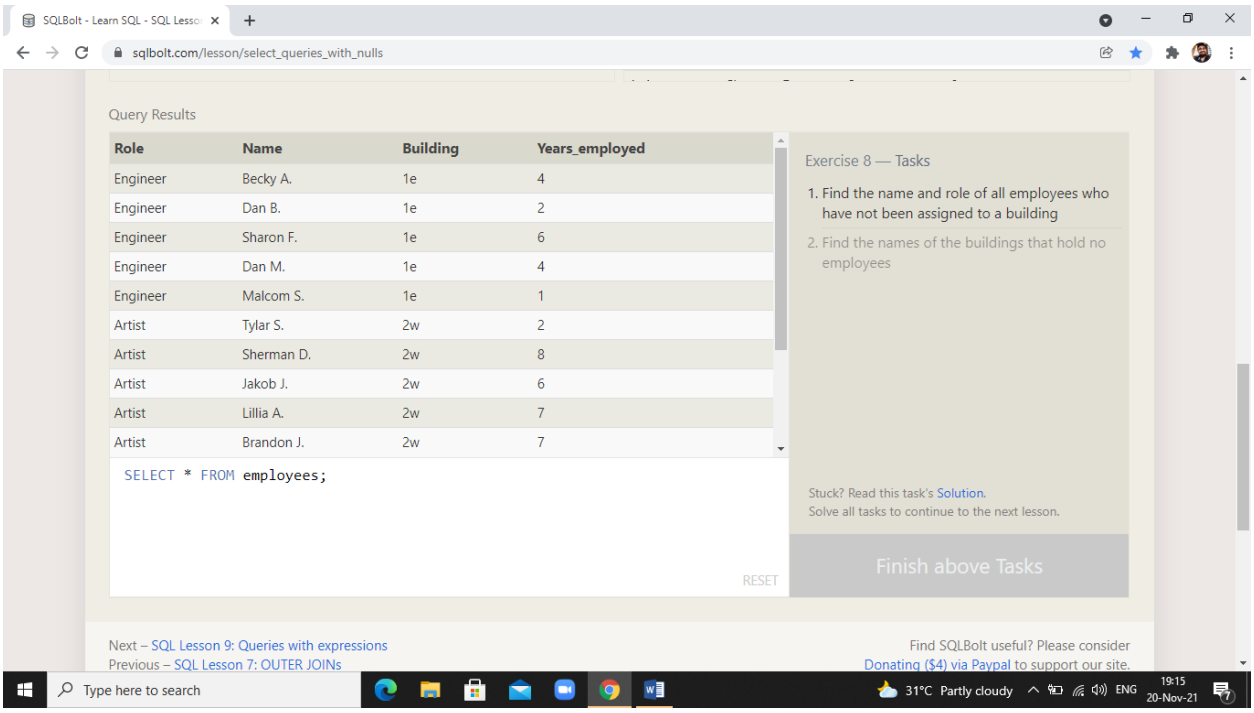
## SQL Lesson 7: OUTER JOINs



## Answers :

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

# SQL Lesson 8: A short note on NULLs




## Answers :

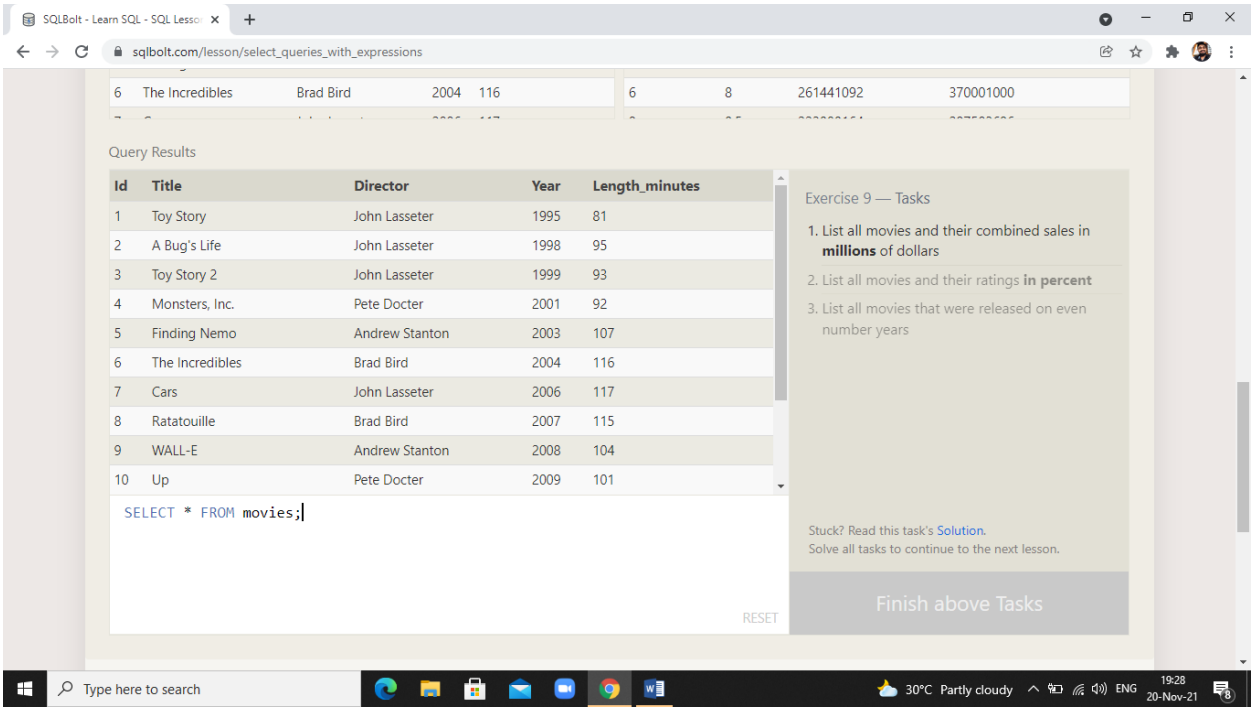
1. **Find the name and role of all employees who have not been assigned to a building**

SELECT * FROM employees where building is null

2. **Find the names of the buildings that hold no employees**

SELECT Building_name from buildings left join employees on building_name=building where role is null;

# SQL Lesson 9: Queries with expressions:




## Answers :

1. **List all movies and their combined sales in millions of dollars:**

```
SELECT title,(Domestic_sales+International_sales)/1000000 as
Total_sales_In_Million FROM movies inner join Boxoffice on
Movies.id = movie_id;
```

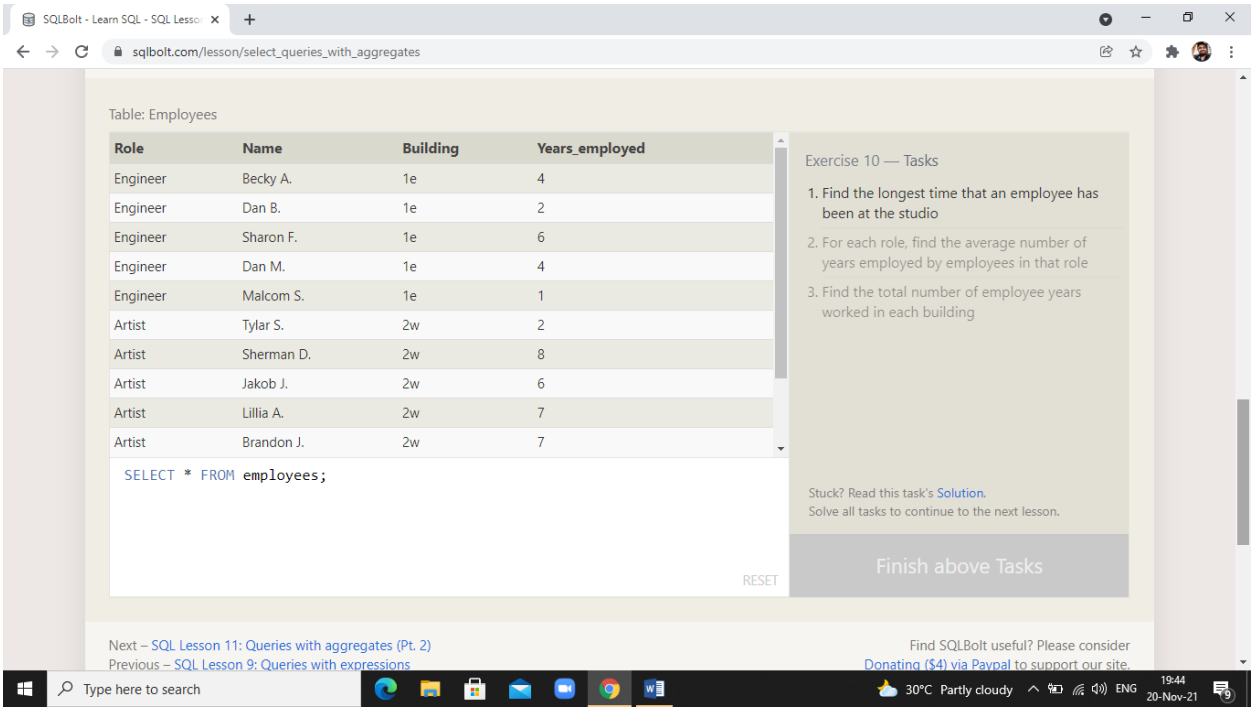
2. List all movies and their ratings in percent:

```
SELECT title, rating*10 as Percentage FROM movies inner join
Boxoffice on Movies.id = movie_id;
```

3. List all movies that were released on even number years:

```
SELECT title FROM movies where year %2=0;
```

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




# Answers :

1. Find the longest time that an employee has been at the studio

```
SELECT distinct name,Max(Years_employed) as longest_service
FROM employees;
```

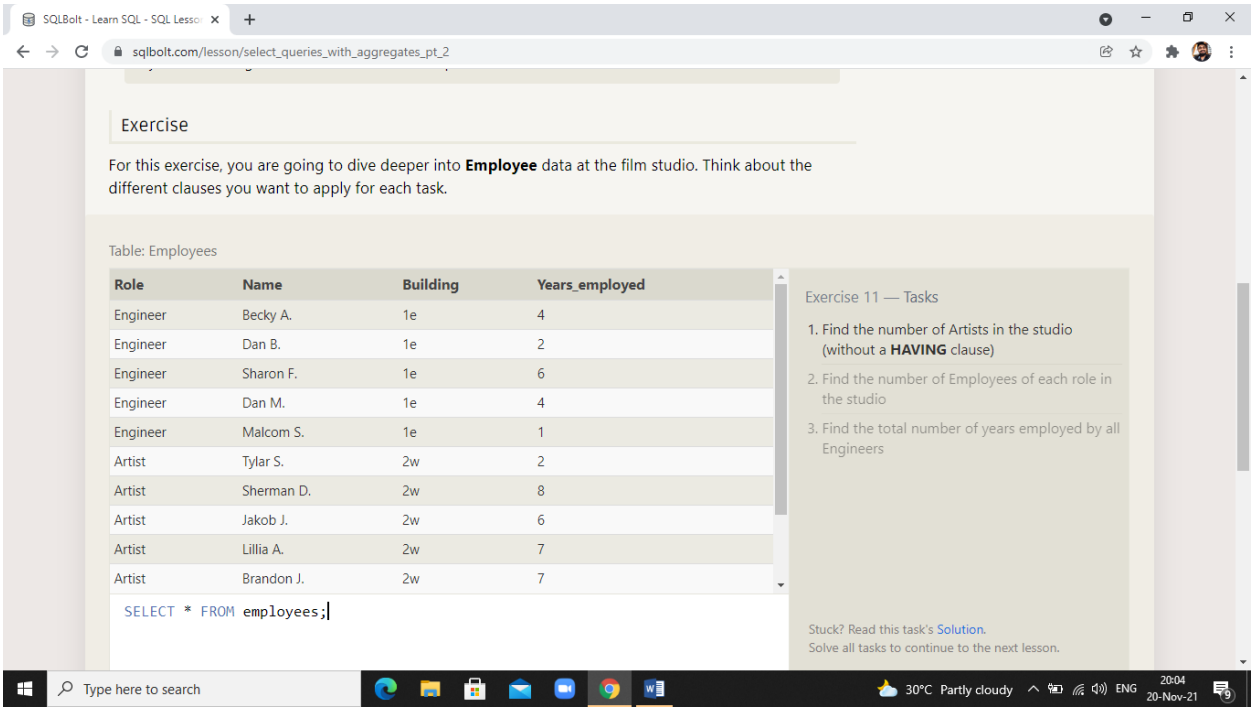
2. For each role, find the average number of years employed by employees in that role

```
SELECT role,avg(Years_employed) as Average_service FROM
employees group by role;
```

3. Find the total number of employee years worked in each building:

```
SELECT building,sum(Years_employed) as Sum_of_years FROM
employees group by building;
```

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




## Answers :

1. **Find the number of Artists in the studio (without a HAVING clause)**

```
SELECT role, count(role) FROM employees where Role="Artist";
```

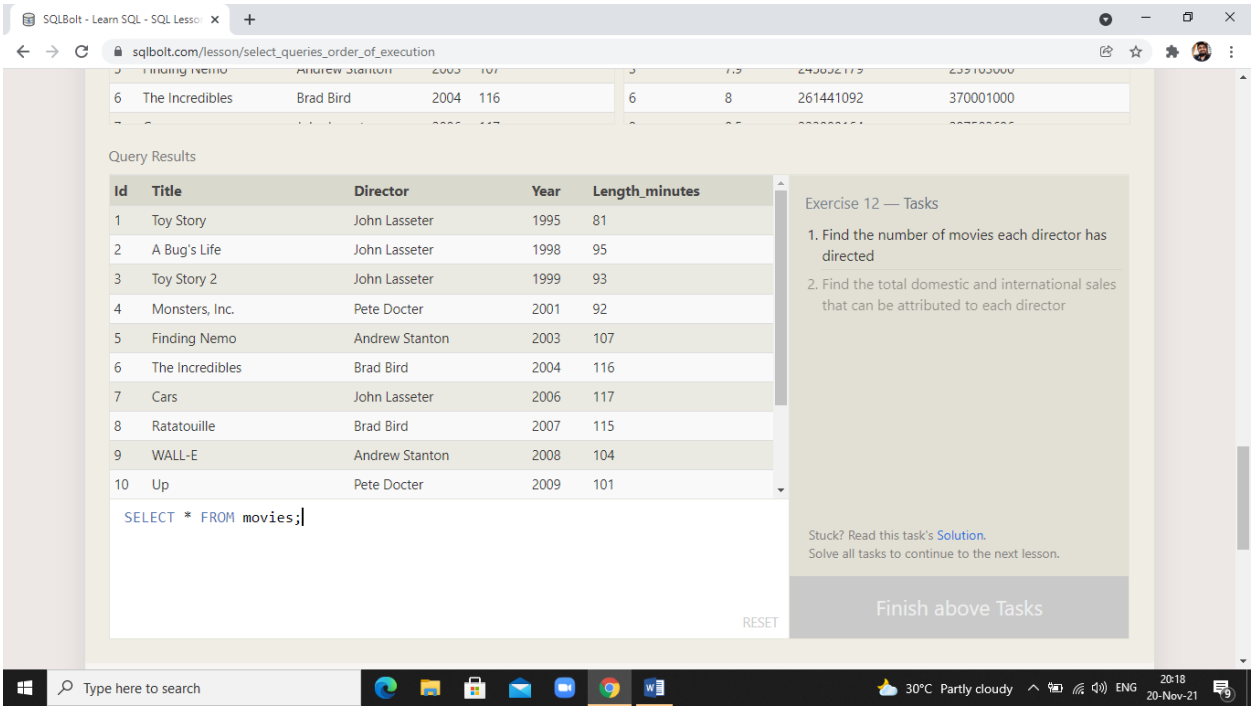
2. **Find the number of Employees of each role in the studio**

```
SELECT role,count(role) FROM employees group by role;
```

3. **Find the total number of years employed by all Engineers**

```
SELECT role,sum(years_employed) FROM employees where Role="Engineer";
```

# SQL Lesson 12: Order of execution of a Query




# Answers :

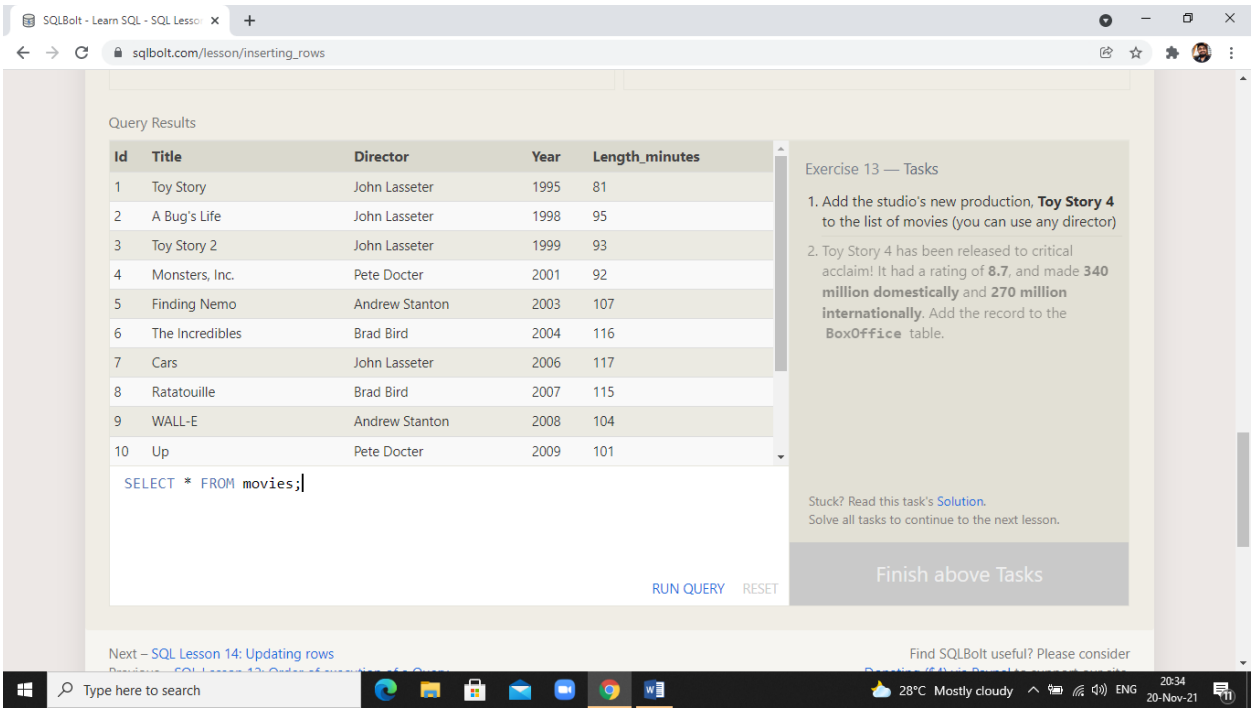
1. **Find the number of movies each director has directed**

SELECT Director,count(Director) as count FROM movies group by director order by count desc ;

2. Find the total domestic and international sales that can be attributed to each director:

SELECT director, sum(Domestic_sales+International_sales) /1000000 as Total_Collection FROM movies inner join Boxoffice on Movies.id=Movie_id group by director order by Total_Collection desc ;

# SQL Lesson 13: Inserting rows




# Answers :

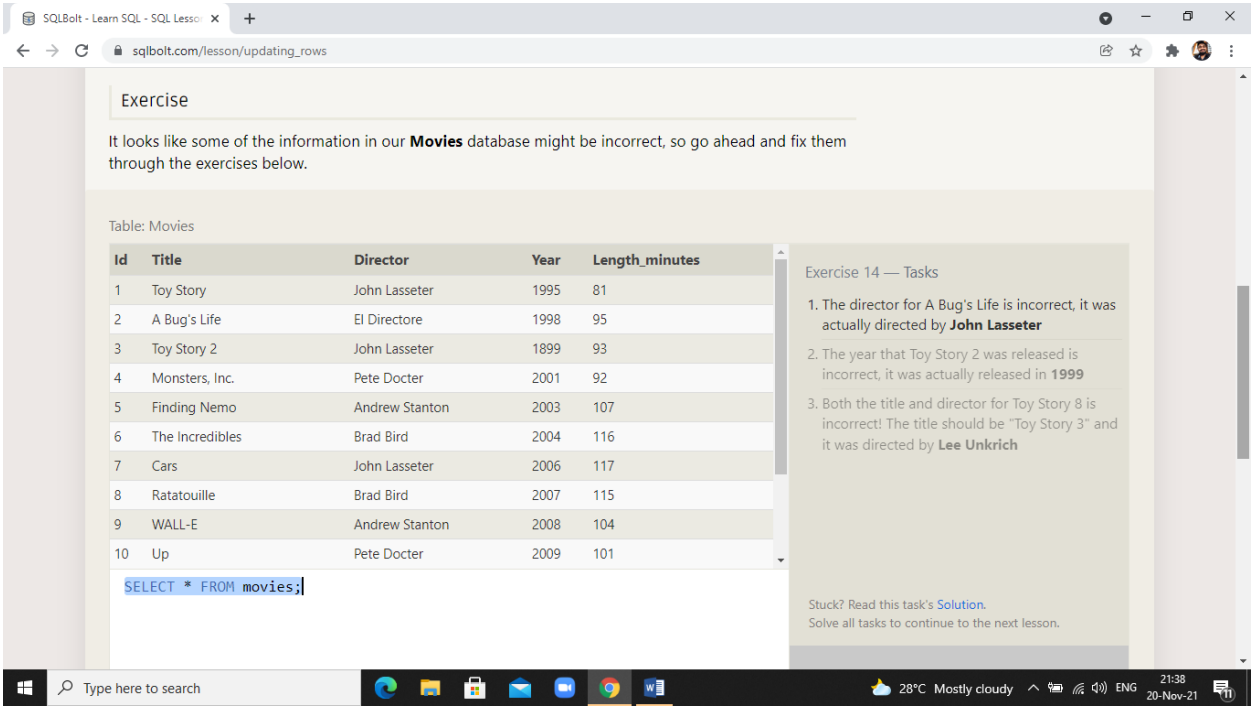
1. Add the studio's new production, Toy Story 4 to the list of movies (you can use any director)

```
INSERT INTO Movies
VALUES (4, "Toy Story 4", "Ajaas", 2021, 120)
```

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.**

```
INSERT INTO Boxoffice
VALUES (4,8.7,340000000,270000000)
```

# SQL Lesson 14: Updating rows:




# Answers:

1. **The director for A Bug's Life is incorrect, it was actually directed by John Lasseter**

```
update movies
set director = "John Lasseter"
where id=2;
```

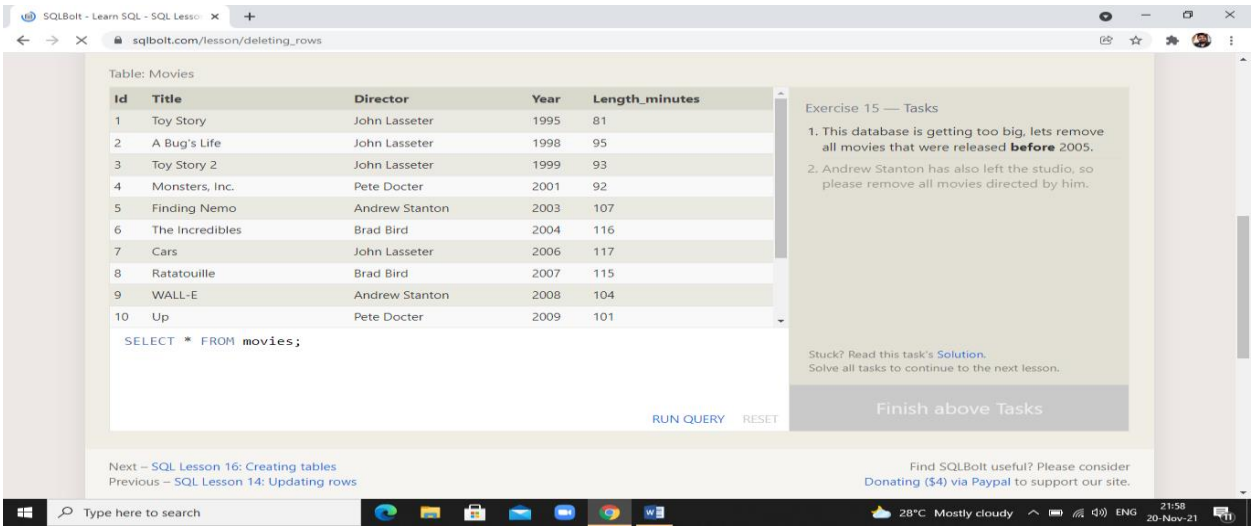
2. The year that Toy Story 2 was released is incorrect, it was actually released in 1999.

```
update movies
set year = 1999
where id=3;
```

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

```
UPDATE Movies
SET Title = "Toy Story 3",
Director = "Lee Unkrich"
where id = 11;
```

## SQL Lesson 15: Deleting rows



# Answers:

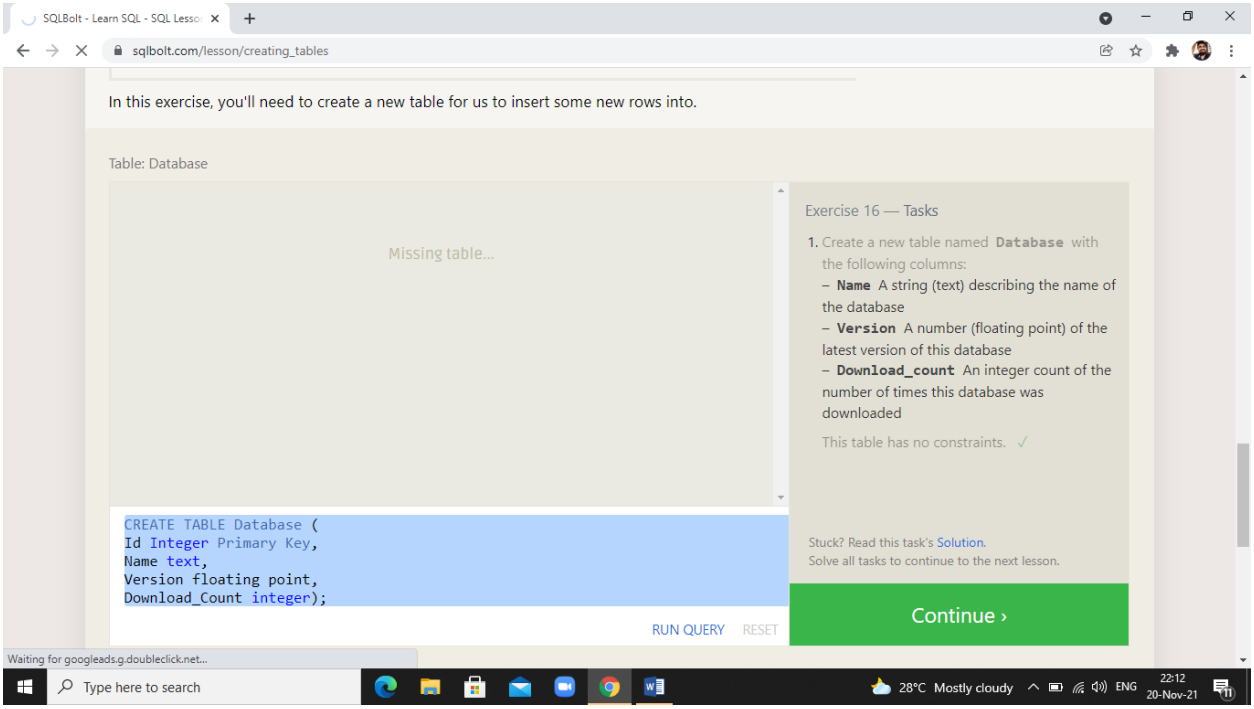
1. **This database is getting too big, lets remove all movies that were released before 2005.**

```
DELETE FROM Movies
where title >2005;
```

2. **Andrew Stanton has also left the studio, so please remove all movies directed by him.**

```
DELETE FROM Movies
where director = "Andrew Stanton";
```

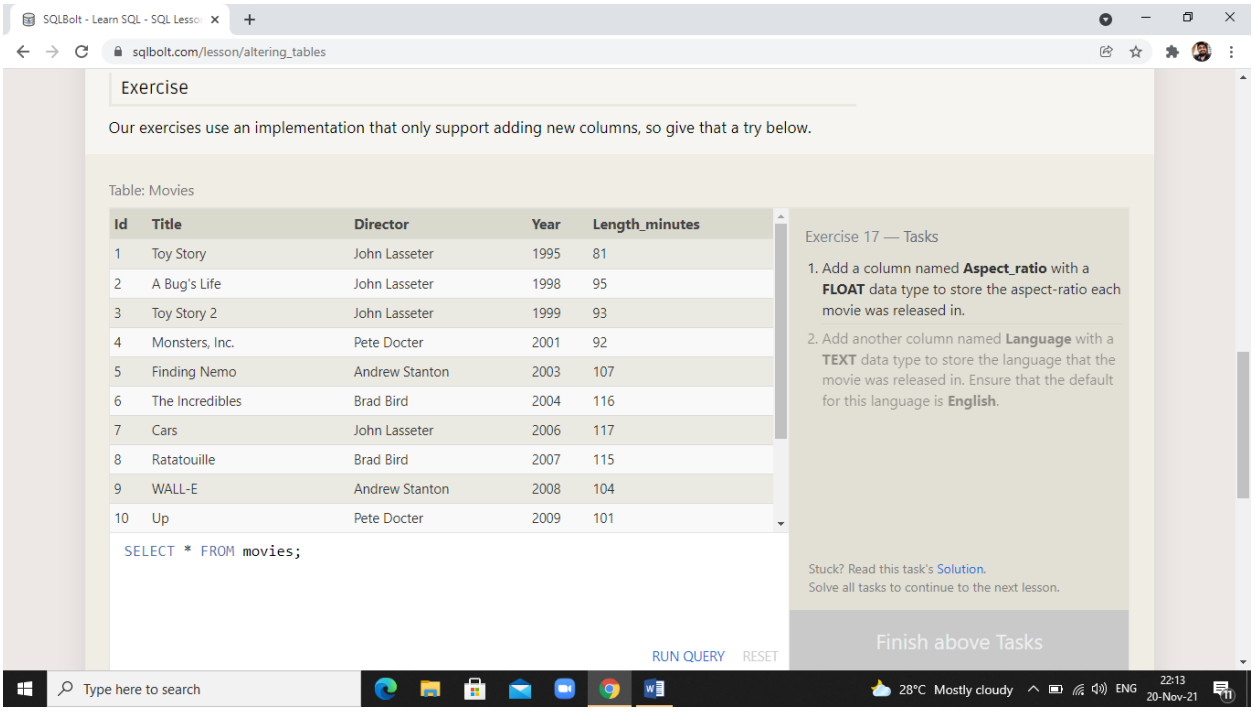
# SQL Lesson 16: Creating tables



**Answers :**

```
CREATE TABLE Database (
Id Integer Primary Key,
Name text,
Version floating point,
Download_Count integer);
```

# SQL Lesson 17: Altering tables:




**Answers :**

1. **Add a column named Aspect_ratio with a FLOAT data type to store the aspect-ratio each movie was released in.**

```
ALTER TABLE Movies
ADD Aspect_ratio Float;
```

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**.**

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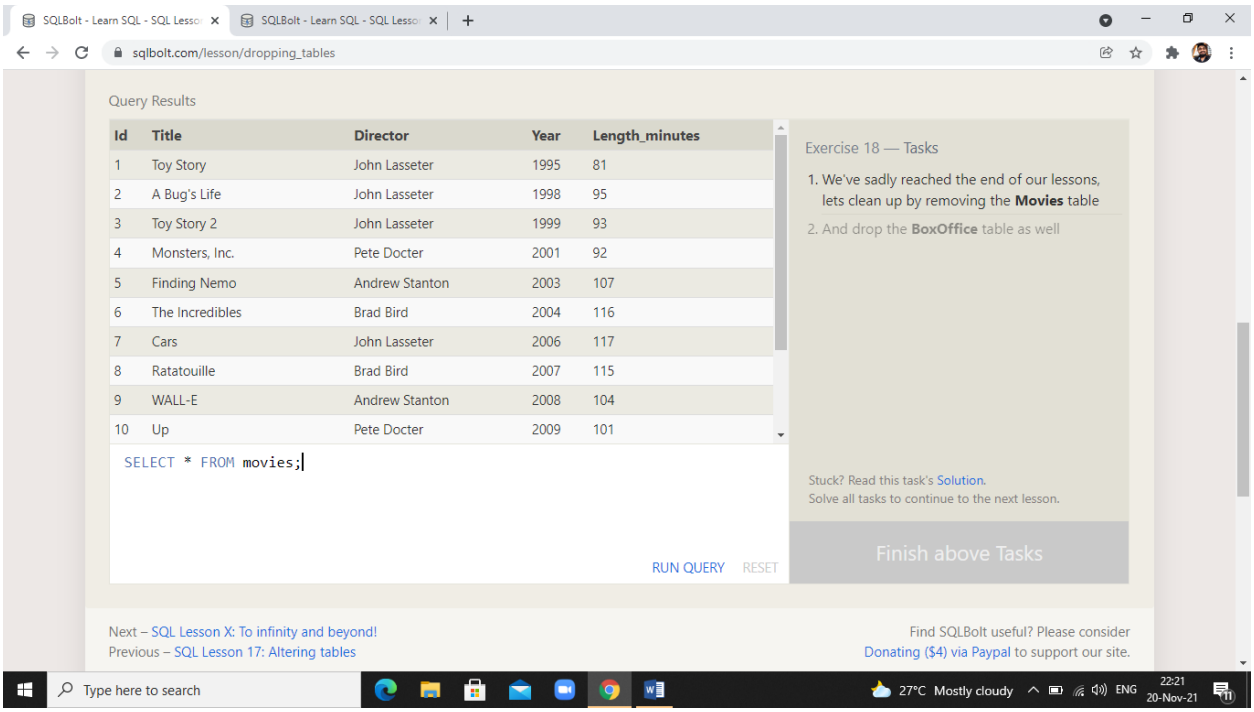
```
ALTER TABLE Movies
ADD Language Text
DEFAULT English;
```

# SQL Lesson 18: Dropping tables



1. **We've sadly reached the end of our lessons, lets clean up by removing the Movies table**

```
DROP TABLE IF EXISTS MOVIES
```

2. **And drop the BoxOffice table as well**

```
DROP TABLE IF EXISTS BOXOFFICE
```