

Estimated time needed: 20 minutes In this lab, you will learn one of the most commonly used statements of SQL (Structured Query Language), the SELECT statement. The SELECT statement is used to select data from a database.

How does the syntax of a SELECT statement look?

SELECT column1, column2, ... FROM table_name

WHERE condition

• FROM: Specifies from which table to get the data. The clause can include optional JOIN subclauses to specify the rules for joining tables. • [Optional Clause] **WHERE**: Specifies which rows to retrieve.

• Some database systems require a semicolon at the end of each SQL statement for execution. It is a standard way to separate one SQL statement from another

which allows more than one SQL statement to be executed in the same call to the server. So, it is good practice to use a semicolon at the end of each SQL

The database used in this lab comes from the following dataset source: Film Locations in San Francisco under a PDDL: Public Domain Dedication and License.

3. Now you can scroll down the table and explore all the columns and rows of the FilmLocations table to get an overall idea of the table contents.

Anand

Anand

Anand

Anand

Anand

Why is there a semicolon after the SQL statements?

What do the keywords / clauses of a SQL statement shown above do?

- statement.
- Software Used in this Lab In this lab, you will use Datasette, an open source multi-tool for exploring and publishing data.

Objectives After completing this lab, you will be able to:

Database Used in this Lab

• Retrieve data records from one or more tables of a database as resultset according to the criteria you specify

Query a database

- Task A: Exploring the Database Let us first explore the **SanFranciscoFilmLocations** database using the **Datasette** tool:
- 1. If the first statement listed below is not already in the Datasette textbox on the right, then copy the code below by clicking on the little copy button on the bottom
- right of the codeblock below and then paste it into the textbox of the Datasette tool using either Ctrl+V or right-click in the text box and choose Paste. SELECT * FROM FilmLocations;

Submit query

SPI Cinemas

SPI Cinemas

SPI Cinemas

SPI Cinemas

4. These are the column attribute descriptions from the **FilmLocations** table:

titles of the films,

Umarji

Umarji

Umarji Anuradha, Jayendra, Aarthi Sriram, &

Umarji

Umarji

Umarji Anuradha,

> Jayendra, Aarthi Sriram, & Suba

> Anuradha,

Aarthi Sriram, &

time of public release of the films,

people who wrote the films,

person 1 who acted in the films,

person 2 who acted in the films,

person 3 who acted in the films

Task B: Example exercises on SELECT statement

3. Copy the solution code above by clicking on the little copy button on the bottom right of the codeblock below and paste it to the textbox of the Datasette

Actor2

Anuradha,

Sriram, &

Anuradha,

Actor3

Retrieve the names of all films released in the 21st century and onwards (release years after 2001 including 2001), along with filming locations and

Anuradha. Jayendra. Aarthi Sriram. & Suba

Anuradha, Jayendra, Aarthi Sriram, & Suba

Anuradha,

Jayendra, Aarthi Sriram, & Suba

Anuradha, Jayendra, Aarthi Sriram, & Suba

home / Practice SQL / SanFranciscoFilmLocations **Practice SQL**

1 SELECT * FROM FilmLocations;

2. Click **Submit Query**.

2011

2011

2011

2011

FilmLocations(

Title:

Writer:

Actor1:

Actor2:

Actor3:

2. Solution:

ReleaseYear:

Tip: Autocomplete with Ctrl+Enter or Cmd+Enter

Database: SanFranciscoFilmLocations

ProductionCompany Distributor **SPI Cinemas** 180 2011 **Epic Roasthouse** (399 Embarcadero) 2011 **SPI Cinemas** Mason & California Streets (Nob Hill) Justin Herman Plaza **SPI Cinemas**

200 block Market

Polk & Larkin Streets

Randall Museum

Street

City Hall

locations of San Francisco where the films were shot, Locations: funny facts about the filming locations, FunFacts: ProductionCompany: companies who produced the films, Distributor: companies who distributed the films, Director: people who directed the films,

1. In this example, suppose we want to retrieve details of all the films from the "FilmLocations" table. The details of each film record should contain all the film columns. 1. Problem:

SELECT * **FROM** FilmLocations;

tool. Then click **Submit query**.

Now let us go through some examples of SELECT queries:

home / Practice SQL / SanFranciscoFilmLocations **Practice SQL Database:** SanFranciscoFilmLocations

Retrieve all records with all columns from the "FilmLocations" table.

Tip: Autocomplete with Ctrl+Enter or Cmd+Enter Submit query

1 SELECT * FROM FilmLocations;

4. Your output resultset should match like below: Database: SanFranciscoFilmLocations 1 SELECT * FROM FilmLocations;

Tip: Autocomplete with Ctrl+Enter or Cmd+Enter Submit query

Results All commands ran successfully **SELECT * FROM FilmLocations**

ReleaseYear Locations ProductionCompany Distributor Director 2011 **Epic Roasthouse** (399 Embarcadero)

SPI Cinemas

2. In this example, now we want to retrieve selective details of all the film records. Let us retrieve the names of all the films along with director names and writer

SELECT Title, Director, Writer FROM FilmLocations;

Submit query

names. 1. Problem:

Retrieve the names of all films with director names and writer names. 2. Solution:

3. Copy the solution code above by clicking on the little copy button on the bottom right of the codeblock below and paste it to the textbox of the Datasette tool. Then click Submit query. home / Practice SQL / SanFranciscoFilmLocations **Practice SQL**

Practice SQL Database: SanFranciscoFilmLocations 1 SELECT Title, Director, Writer FROM FilmLocations; Tip: Autocomplete with Ctrl+Enter or Cmd+Enter Submit query Results All commands ran successfully

Database: SanFranciscoFilmLocations

1 SELECT Title, Director, Writer FROM FilmLocations;

4. Your output resultset should match like below:

Tip: Autocomplete with Ctrl+Enter or Cmd+Enter

SELECT Title, Director, Writer FROM FilmLocations Title Director Writer 180 Jayendra Umarji Anuradha, Jayendra, Aarthi Sriram, & Suba 180 Jayendra Umarji Anuradha, Jayendra, Aarthi Sriram, & Suba Jayendra 180 Umarji Anuradha, Jayendra, Aarthi Sriram, & Suba 180 Umarji Anuradha, Jayendra, Aarthi Sriram, & Suba 180 Jayendra Umarji Anuradha, Jayendra, Aarthi Jayendra Umarji Anuradha, Jayendra, Aarthi Sriram, & Suba 3. In this example, we want to retrieve film names along with filming locations and release years. But we also want to restrict the output resultset so that we can retrieve only the film records released in 2001 and onwards (release years after 2001 including 2001).

1. Problem:

2. Solution:

release years.

SELECT Title, ReleaseYear, Locations **FROM** FilmLocations **WHERE** ReleaseYear>=2001; 3. Copy the solution code above by clicking on the little copy button on the bottom right of the codeblock below and paste it to the textbox of the Datasette tool. Then click **Submit query**. home / Practice SQL / SanFranciscoFilmLocations **Practice SQL Database:** SanFranciscoFilmLocations

4. Your output resultset should match like below:

1 SELECT Title, ReleaseYear, Locations FROM FilmLocations WHERE ReleaseYear>=2001;

SELECT Title, ReleaseYear, Locations FROM FilmLocations WHERE ReleaseYear>=2001

Epic Roasthouse (399 Embarcadero)

Mason & California Streets (Nob Hill)

lustin Herman Plaza

Polk & Larkin Streets

200 block Market Street

Tip: Autocomplete with Ctrl+Enter or Cmd+Enter

Practice SQL

Results

Title

180

180

180

180

180

180

1. Problem:

► Click here for Hint

► Click here for Hint

► Click here for Hint

► Click here for Solution

3. Problem:

► Click here for Solution

► Click here for Output

► Click here for Solution

Database: SanFranciscoFilmLocations

All commands ran successfully

2011

2011

2011

2011

2011

2011

Tip: Autocomplete with Ctrl+Enter or Cmd+Enter

ReleaseYear Locations

1 SELECT Title, ReleaseYear, Locations FROM FilmLocations WHERE ReleaseYear>=2001;

Submit query

Submit query

180 555 Market St 2011 24 Hours on Broderick from Fulton to McAlister Task C: Practice exercises on SELECT statement

Finally, let us practice creating and running some SELECT queries.

Retrieve the fun facts and filming locations of all films.

► Click here for Output 2. Problem: Retrieve the names of all films released in the 20th century and before (release years before 2000 including 2000) that, along with filming locations and release years.

► Click here for Output Congratulations! You have completed this Lab.

Retrieve the names, production company names, filming locations, and release years of the films which are not written by James Cameron.

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Author(s)

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