Lab: Built-in Functions

This document defines the **lab exercise assignments** for the PostgreSQL course @ Software University.

Submit your solutions in the SoftUni Judge System.

Create database **book_library** and open its **query tool.**

Download the file **book_library.sql** from the course instance, import it into your database's **query tab,** and **execute** the queries. Get familiar with the **book_library tables**. You will use them in the following exercises.

1. Find Book Titles

Write a SQL query to find all **books** whose **titles start** with **"The"**. **Order** the result **by id.**

Submit your query statements**.**

Example

title
The Mysterious Affair at Styles
The Big Four
The Murder at the Vicarage
The Mystery of the Blue Train
The Ring
…

2. Replace Titles

Write a SQL query to find all **books**, **which titles start with "The" and replace the substring with 3 asterisks.** Retrieve data about the updated titles. **Order the result by id.** Submit your query statements.

Example

title
*** Mysterious Affair at Styles
*** Big Four
*** Murder at the Vicarage
*** Mystery of the Blue Train
*** Ring
*** Alchemist
*** Fifth Mountain
*** Zahir

*** Dead Zone	
*** Hobbit	
*** Adventures of Tom Bombadil	

3. Triangles on Bookshelves

Write a SQL query to calculate the **area** of **triangles** with a given **side** and **height** from table **triangles**.

- Display the resulting table with columns **id** and **area. Order by id.**

Submit your query statements.

Example

id	area
1	4.0000000000000000
2	9.0000000000000000
3	6.7500000000000000
4	48.0000000000000000
5	7.5000000000000000

4. Format Costs

Write a SQL query to get each book's **title** and **cost** (cost as **modified_price)** and format the output to **3 digits after the decimal point**. **Order** by **id**.

Submit your query statements.

Example

title	modified_price
Unfinished Portrait	15.990
The Mysterious Affair at Styles	17.990
The Big Four	14.990
The Murder at the Vicarage	13.990
The Mystery of the Blue Train	12.990
…	…

5. Year of Birth

Write a SQL query to get the **year of birth** for each **author**. Your query should return:

- **first_name** – the first name of each author
- **last_name** – the last name of each author
- **year** – the year of birth of each author

Submit your query statements.

Example

first_name	last_name	year
Agatha	Christie	1890
William	Shakespeare	1564
Danielle	Schuelein-Steel	1947
Joanne	Rowling	1965
Lev	Tolstoy	1828
…	…	…

6. Format Date of Birth

Write a SQL query to display the **author's last name** and **date of birth** in the format **15 (Mon) Sep 1890**.

- use date format: **DD (Dy) Mon YYYY**
- **born** field(formatted) as **Date of Birth**
- **last_name** as **Last Name**

Submit your query statements.

Example

Last Name	Date of Birth
Christie	15 (Mon) Sep 1890
Shakespeare	26 (Sun) Apr 1564
Schuelein-Steel	14 (Mon) Jul 1947
Rowling	31 (Sat) Jul 1965
Tolstoy	09 (Tue) Sep 1828
…	…

7. Harry Potter Books

Write a SQL query to retrieve **titles** of all the **Harry Potter** books. **Order the information by id.**

Submit your query statements.

- Use the **WHERE** clause with the **LIKE** operator.

Example

title
Harry Potter and the Philosophers Stone
Harry Potter and the Chamber of Secrets

Harry Potter and the Prisoner of Azkaban
…