**CREATION OF THE DATABASE AND DATA INSERTION**

We create the Library Database

CREATE DATABASE Library;

USE Library;

-- Create Library Books table

CREATE TABLE LibraryBooks (

BookID INT PRIMARY KEY,

Title VARCHAR(255),

Author VARCHAR(255),

Genre VARCHAR(50),

AvailableCopies INT

);

We insert initial data

INSERT INTO LibraryBooks (BookID, Title, Author, Genre, AvailableCopies)

VALUES

(301, 'The Great Gatsby', 'F. Scott Fitzgerald', 'Fiction', 5),

(302, 'To Kill a Mockingbird', 'Harper Lee', 'Fiction', 8),

(303, 'The Hobbit', 'J.R.R. Tolkien', 'Fantasy', 3),

(304, 'Pride and Prejudice', 'Jane Austen', 'Romance', 6),

(305, '1984', 'George Orwell', 'Dystopian', 4);

We insert 10 more books

INSERT INTO LibraryBooks (BookID, Title, Author, Genre, AvailableCopies)

VALUES

(306, 'The Catcher in the Rye', 'J.D. Salinger', 'Fiction', 7),

(307, 'One Hundred Years of Solitude', 'Gabriel Garcia Marquez', 'Magical Realism', 10),

(308, 'The Lord of the Rings', 'J.R.R. Tolkien', 'Fantasy', 5),

(309, 'Wuthering Heights', 'Emily Brontë', 'Gothic Fiction', 9),

(310, 'The Da Vinci Code', 'Dan Brown', 'Mystery', 6),

(311, 'The Alchemist', 'Paulo Coelho', 'Philosophical Fiction', 8),

(312, 'Brave New World', 'Aldous Huxley', 'Dystopian', 12),

(313, 'The Shining', 'Stephen King', 'Horror', 4),

(314, 'The Picture of Dorian Gray', 'Oscar Wilde', 'Gothic Fiction', 7),

(315, 'Frankenstein', 'Mary Shelley', 'Gothic Horror', 5);

We verify the data

SELECT \* FROM LibraryBooks;

**DETECTIVE CHALLENGE**

After we have created the Library Database:

1. **Query: Retrieve all books from the Fantasy genre.**

**A screenshot of a computer program

Description automatically generated**

1. **Query: Display the titles and authors of books with more than 6 available copies.**

**A screenshot of a computer

Description automatically generated**

1. **Query: Find the book with the highest number of available copies.**

**A screen shot of a computer

Description automatically generated**

1. **Query: Count the total number of books in the library.**

**A screenshot of a computer

Description automatically generated**

1. **Query: Retrieve books authored by 'J.R.R. Tolkien'.**

**A screen shot of a computer

Description automatically generated**

1. **Query: Display books with titles containing the word 'The'.**

**A screenshot of a computer

Description automatically generated**

1. **Query: Find books in the Fiction genre with fewer than 5 available copies.**

**A computer screen with text

Description automatically generated**

1. **Query: Calculate the average number of available copies for all books.**

**A screenshot of a computer

Description automatically generated**

1. **Query: Retrieve the books sorted alphabetically by title.**

**A screenshot of a computer

Description automatically generated**

1. **Query: Identify books with titles starting with the letter 'T'.**

**A screenshot of a computer program

Description automatically generated**

1. **Query: Find the book with the lowest number of available copies.**

**A screen shot of a computer

Description automatically generated**

1. **Query: Display unique genres available in the library.**

**A screen shot of a computer

Description automatically generated**

1. **Query: Count the number of books in each genre.**

**A screen shot of a computer

Description automatically generated**

1. **Query: Retrieve books published after the year 2000.**

That would be impossible because in the only table of this database, there is no “year of release.

**A screen shot of a computer program

Description automatically generated**

1. **Query: Find books where the author's name contains 'Lee'.**

**A screen shot of a computer

Description automatically generated**

1. **Query: Calculate the total number of available copies for each genre.**

A screenshot of a computer

Description automatically generated

1. **Query: Display books with more than 10 available copies or published before 1990.**

Like exercise 14, this is impossible because there is no field where we can retrieve the year of release.

1. **Query: Find the book with the longest title.**

**A screen shot of a computer

Description automatically generated**

1. **Query: Retrieve books with titles containing 'the' (case-insensitive).**
2. **Query: Display books ordered by the number of available copies in ascending order.**

A screenshot of a computer program

Description automatically generated

In couples, prepare an exposition about how you have solved these queries (85%) and about the books you like (Comics are also included)(15%) –Around 15 minutes-

This will be your assignment on the first part of the Learning Outcome.