DBC-2 Implement MYSQL/Oracle database connectivity with PHP /python /Java Implement Database navigation operations (add, delete, edit,).

- pip install mysql-connector-python #terminal

```
-- Create database
CREATE DATABASE library_db;

-- Use the database
USE library_db;

-- Create books table
CREATE TABLE books (
    id INT AUTO_INCREMENT PRIMARY KEY,
    title VARCHAR(255) NOT NULL,
    author VARCHAR(255),
    year INT
);
```

#main code

```
import mysql.connector

# ---------- Connect to MySQL ----------
def connect_db():
    return mysql.connector.connect(
        host="localhost",
        user="root",
        password="root",
        database="lb"
    )

# ---------- CRUD Functions ----------
def add_book():
    title = input("Enter Book Title: ")
    author = input("Enter Author Name: ")
    year = int(input("Enter Year: "))
    con = connect_db()
    cur = con.cursor()
    cur.execute("INSERT INTO books (title, author, year) VALUES (%s, %s, %s)", (title, author, year))
    con.commit()
    con.close()
    print("Book added successfully!")

def show_books():
    con = connect_db()
    cur = con.cursor()
    cur.execute("SELECT * FROM books")
    rows = cur.fetchall()
    print("\nBooks in Library:")
    for row in rows:
        print(row)
    con.close()
```

```
def update_book():
    book_id = int(input("Enter Book ID to update: "))
    new_title = input("Enter new Title (leave blank to skip): ")
    new_author = input("Enter new Author (leave blank to skip): ")
    new_year = input("Enter new Year (leave blank to skip): ")

    update_data = []
    query = "UPDATE books SET "
    if new_title:
        query += "title=%s,"
        update_data.append(new_title)
    if new_author:
        query += "author=%s,"
        update_data.append(new_author)
    if new_year:
        query += "year=%s,"
        update_data.append(int(new_year))

    if not update_data:
        print("Nothing to update!")
        return

    query = query.rstrip(",") + " WHERE id=%s"
    update_data.append(book_id)

    con = connect_db()
    cur = con.cursor()
    cur.execute(query, tuple(update_data))
    con.commit()
    con.close()
    print(" Book updated successfully!")

def delete_book():
    book_id = int(input("Enter Book ID to delete: "))
    con = connect_db()
    cur = con.cursor()
    cur.execute("DELETE FROM books WHERE id=%s", (book_id,))
    con.commit()
    con.close()
    print("Book deleted successfully!")

# ---------- Main Loop ----------
while True:
    print("\n===== Library MySQL Menu =====")
    print("1. Add Book")
    print("2. Show All Books")
    print("3. Update Book")
    print("4. Delete Book")
    print("5. Exit")

    choice = input("Enter your choice: ")
```

```
if choice == '1':
    add_book()
elif choice == '2':
    show_books()
elif choice == '3':
    update_book()
elif choice == '4':
    delete_book()
elif choice == '5':
    print("Exiting...")
    break
else:
    print("Invalid choice! Please try again.")
```
