DBC-1 Write a program to implement MongoDB database connectivity with PHP /python /Java Implement Database navigation CRUD operations (add, delete, edit etc.)

- pip install pymongo #terminal

#main code

```
from pymongo import MongoClient

# ---------- Connect to MongoDB ----------
client = MongoClient("mongodb://localhost:27017/")
db = client.library_db
books = db.books  # Collection for library books

# ---------- CRUD Functions ----------
def add_book():
    title = input("Enter Book Title: ")
    author = input("Enter Author Name: ")
    year = int(input("Enter Year: "))
    books.insert_one({"title": title, "author": author, "year": year})
    print(" Book added successfully!")

def show_books():
    print("\n Books in Library:")
    for book in books.find():
        print(book)

def update_book():
    title = input("Enter Title of book to update: ")
    new_author = input("Enter new Author (leave blank to skip): ")
    new_year = input("Enter new Year (leave blank to skip): ")
    update_data = {}
    if new_author: update_data["author"] = new_author
    if new_year: update_data["year"] = int(new_year)
    if update_data:
        books.update_one({"title": title}, {"$set": update_data})
        print("Book updated successfully!")
    else:
        print("Nothing to update.")

def delete_book():
    title = input("Enter Title of book to delete: ")
    result = books.delete_one({"title": title})
    if result.deleted_count:
        print(" Book deleted successfully!")
    else:
        print("Book not found.")

# ---------- Main Loop ----------
while True:
    print("\n===== Library MongoDB 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.")
```

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mongodb queries:

```
use library_db
show collections        #(books)
```

1.for insertion

```
db.books.insertOne({title: "Test Book", author: "Test Author", year: 2025})
```

2. View all books

```
db.books.find()
```

3. Pretty-print all books

```
db.books.find().pretty()
```

4.update books

```
db.books.updateOne(
    { title: "Python 101" },
    { $set: { author: "Alice" } }
)
```

5. delete book

```
db.books.deleteOne({ title: "Java Basics" })
```

6. Query a specific book

```
db.books.find({ year: 2023 })
```