**3. Test Cases (using assert)**

Create a separate file called test\_library.py:

# --- Library Tests ---

# Import your functions and data structures

from main import books, members, add book, borrow book, return\_book, add member

# 1. Test adding a new book

add book ("123456", "Test Book", "Author A", "Fiction", 2)

assert "123456" in books

assert books ["123456”] ["title"] == "Test Book"

# 2. Test adding a new member

add member ("M100", "Test User", "user@test.com")

assert any(m["member\_id"] == "M100" form in members)

# 3. Test borrowing a book

borrow book ("M100", "123456")

assert "123456" in next (m ["borrowed books"] form in members if m["member\_id"] == "M100")

assert books ["123456”] ["available"] == 1

# 4. Test borrowing when no copies left

books ["123456”] ["available"] = 0

try:

borrow book ("M100", "123456")

except Exception:

pass # Expected failure

# 5. Test returning a book

return\_book ("M100", "123456")

assert books ["123456”] ["available"] == 1

print ("✅ All tests passed successfully!")