

**C204**

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**Problem 1**

Source Code:

```
books = []

def add_books():
    """Function to add books to the list"""
    print("\n--- ADD BOOKS ---")
    while True:
        book = input("Enter book title (type 'x' to stop): ")
        if book.lower() == "x":
            break
        books.append(book)
        print(f"Added: {book}")
    print(f"Total books: {len(books)}")

def search_book():
    """Function to search for a book"""
    if len(books) == 0:
        print("No books in collection!")
        return

    search = input("Enter book to search: ")
    count = 0
```

```
for book in books:

    if search.lower() in book.lower():

        count = count + 1


if count > 0:

    print(f"FOUND! '{search}' appears {count} time(s)")
else:

    print(f"NOT FOUND! '{search}' is not in collection")
```

```
def remove_book():

    """Function to remove a book"""

    if len(books) == 0:

        print("No books in collection!")

        return
```

```
remove = input("Enter book to remove: ")

found = False
```

```
for book in books:

    if book.lower() == remove.lower():

        books.remove(book)

        print("Item found and deleted")

        found = True

        break
```

```
if not found:
```

```
    print("Item not found - deletion unsuccessful")
```

```
def view_books():
```

```
    """Function to display all books sorted"""
```

```
    if len(books) == 0:
```

```
        print("No books in collection!")
```

```
        return
```

```
    sort_choice = input("Sort A-Z (1) or Z-A (2)? Enter 1 or 2: ")
```

```
    if sort_choice == "1":
```

```
        sorted_books = sorted(books)
```

```
        print("\n--- Books (A-Z) ---")
```

```
    elif sort_choice == "2":
```

```
        sorted_books = sorted(books, reverse=True)
```

```
        print("\n--- Books (Z-A) ---")
```

```
    else:
```

```
        sorted_books = books
```

```
        print("\n--- Books ---")
```

```
    for i in range(len(sorted_books)):
```

```
        print(f"{i+1}. {sorted_books[i]}")
```

```
    print(f"Total: {len(books)} books")
```

```
def display_menu():  
    """Function to show the menu"""  
    print("\n--- BOOK COLLECTION MANAGER ---")  
    print("1 – Add Books")  
    print("2 – Search for a Book")  
    print("3 – Remove a Book")  
    print("4 – View all Books (Sorted A-Z | Z-A)")  
    print("0 – Exit Program")  
  
while True:  
    display_menu()  
    choice = input("Pick one [0 to quit]: ")  
  
    if choice == "1":  
        add_books()  
    elif choice == "2":  
        search_book()  
    elif choice == "3":  
        remove_book()  
    elif choice == "4":  
        view_books()  
    elif choice == "0":  
        print("Thank you! Goodbye!")  
        break  
    else:  
        print("Invalid choice! Please pick 0-4")
```

```
print("Program ended.")
```

Sample Output:

```
--- BOOK COLLECTION MANAGER ---
1 - Add Books
2 - Search for a Book
3 - Remove a Book
4 - View all Books (Sorted A-Z | Z-A)
0 - Exit Program
Pick one [0 to quit]: 1

--- ADD BOOKS ---
Enter book title (type 'x' to stop): Dune
Added: Dune
Enter book title (type 'x' to stop): 1984
Added: 1984
Enter book title (type 'x' to stop): The Hobbit
Added: The Hobbit
Enter book title (type 'x' to stop): Harry Potter
Added: Harry Potter
Enter book title (type 'x' to stop): x
Total books: 4

--- BOOK COLLECTION MANAGER ---
1 - Add Books
2 - Search for a Book
3 - Remove a Book
4 - View all Books (Sorted A-Z | Z-A)
0 - Exit Program
Pick one [0 to quit]: 2
Enter book to search: harry
FOUND! 'harry' appears 1 time(s)

--- BOOK COLLECTION MANAGER ---
1 - Add Books
2 - Search for a Book
3 - Remove a Book
4 - View all Books (Sorted A-Z | Z-A)
0 - Exit Program
Pick one [0 to quit]: legend
Invalid choice! Please pick 0-4
```

```

--- BOOK COLLECTION MANAGER ---
1 - Add Books
2 - Search for a Book
3 - Remove a Book
4 - View all Books (Sorted A-Z | Z-A)
0 - Exit Program
Pick one [0 to quit]: 2
Enter book to search: king
NOT FOUND! 'king' is not in collection

--- BOOK COLLECTION MANAGER ---
1 - Add Books
2 - Search for a Book
3 - Remove a Book
4 - View all Books (Sorted A-Z | Z-A)
0 - Exit Program
Pick one [0 to quit]: 3
Enter book to remove: 1984
Item found and deleted

--- BOOK COLLECTION MANAGER ---
1 - Add Books
2 - Search for a Book
3 - Remove a Book
4 - View all Books (Sorted A-Z | Z-A)
0 - Exit Program
Pick one [0 to quit]: 4
Sort A-Z (1) or Z-A (2)? Enter 1 or 2: 1

--- Books (A-Z) ---
1. Dune
2. Harry Potter
3. The Hobbit
Total: 3 books

```

```

--- BOOK COLLECTION MANAGER ---
1 - Add Books
2 - Search for a Book
3 - Remove a Book
4 - View all Books (Sorted A-Z | Z-A)
0 - Exit Program
Pick one [0 to quit]: 3
Enter book to remove: the
Item not found - deletion unsuccessful

--- BOOK COLLECTION MANAGER ---
1 - Add Books
2 - Search for a Book
3 - Remove a Book
4 - View all Books (Sorted A-Z | Z-A)
0 - Exit Program

```