**Demonstration1**

defect\_database = {}

defect\_id\_counter = 1

def add\_defect(title, description, severity):

    global defect\_id\_counter

    defect\_database[defect\_id\_counter] = {

        "Title": title,

        "Description": description,

        "Severity": severity,

        "Status": "Open"

    }

    print(f"Defect {defect\_id\_counter} added successfully!")

    defect\_id\_counter += 1

def view\_defects():

    if not defect\_database:

        print("\nNo defects recorded yet.")

    else:

        print("\nCurrent Defect List:")

        for defect\_id, details in defect\_database.items():

            print(f"ID: {defect\_id} | Title: {details['Title']} | Severity: {details['Severity']} | Status: {details['Status']}")

def close\_defect(defect\_id):

    if defect\_id in defect\_database:

        defect\_database[defect\_id]["Status"] = "Closed"

        print(f"Defect {defect\_id} has been closed.")

    else:

        print("Invalid Defect ID!")

def generate\_report():

    total = len(defect\_database)

    open\_defects = sum(1 for defect in defect\_database.values() if defect["Status"] == "Open")

    closed\_defects = total - open\_defects

    print("\n--- Defect Report ---")

    print(f"Total Defects: {total}")

    print(f"Open Defects: {open\_defects}")

    print(f"Closed Defects: {closed\_defects}")

def main():

    while True:

        print("\n--- Defect Tracking System ---")

        print("1. Add Defect")

        print("2. View Defects")

        print("3. Close Defect")

        print("4. Generate Report")

        print("5. Exit")

        choice = input("Enter your choice (1-5): ")

        if choice == '1':

            title = input("Enter defect title: ")

            description = input("Enter defect description: ")

            severity = input("Enter severity (Low/Medium/High): ")

            add\_defect(title, description, severity)

        elif choice == '2':

            view\_defects()

        elif choice == '3':

            try:

                defect\_id = int(input("Enter Defect ID to close: "))

                close\_defect(defect\_id)

            except ValueError:

                print("Invalid input! Please enter a numeric Defect ID.")

        elif choice == '4':

            generate\_report()

        elif choice == '5':

            print("Exiting Defect Tracking System. Goodbye!")

            break

        else:

            print("Invalid choice. Please select between 1 to 5.")

if \_\_name\_\_ == "\_\_main\_\_":

    main()