Name: Jay Hansraj Khania
Reg. No.: 21BCE1394

[This assignment is done with my team partner Chirayu Batra-21BCE5756]

EXPERIMENT 9 - JUnit test cases for our Online Medicine Delivery App (MediNet)

Aim:

To develop JUnit test cases for a given Java Class and generate unit test report.

Steps Involved:

Steps in creating a JUnit Test case and Executing it in NetBeans and Eclipse Enviornment

A unit test is to test a smaller unit of code, e.g. methods. Writing a unit test to test the individual unit of code is one of the best development practices and helps to find bug earlier in the development cycle. Though there is another unit testing framework available in Java e.g. TestNG, JUnit has its own place among Java developers

The main difference between JUnit 4 and JUnit 3 is that, JUnit4 is based on annotation feature of Java 1.5 and easy to write, while JUnit 3 uses “test” keyword, to identify test methods.

Codes:

Java code:

```
import java.util.ArrayList;
import java.util.List;

public class MedicineDeliverySoftware {

   private List<Medicine> medicines;

   public MedicineDeliverySoftware() {
      this.medicines = new ArrayList<>();
   }
```

```
    public void addMedicine(Medicine medicine) {
        this.medicines.add(medicine);
    }

    public List<Medicine> getMedicines() {
        return this.medicines;
    }

    public void placeOrder(String medicineName, int quantity) {
        Medicine medicine = this.getMedicineByName(medicineName);
        if (medicine == null) {
            throw new IllegalArgumentException("Medicine not found");
        }

        if (quantity <= 0) {
            throw new IllegalArgumentException("Quantity must be greater than 0");
        }

        medicine.setQuantity(medicine.getQuantity() - quantity);
    }

    private Medicine getMedicineByName(String medicineName) {
        for (Medicine medicine : this.medicines) {
            if (medicine.getName().equals(medicineName)) {
                return medicine;
            }
        }

        return null;
    }
}
```

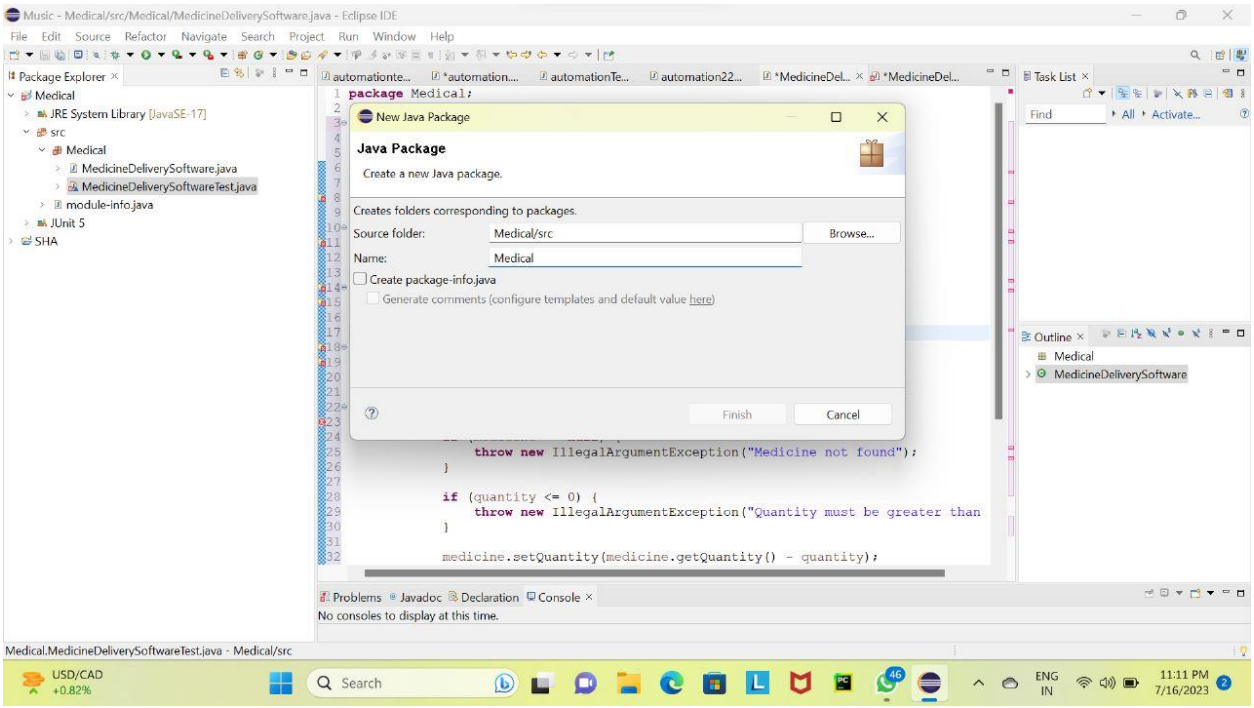
Testing code:

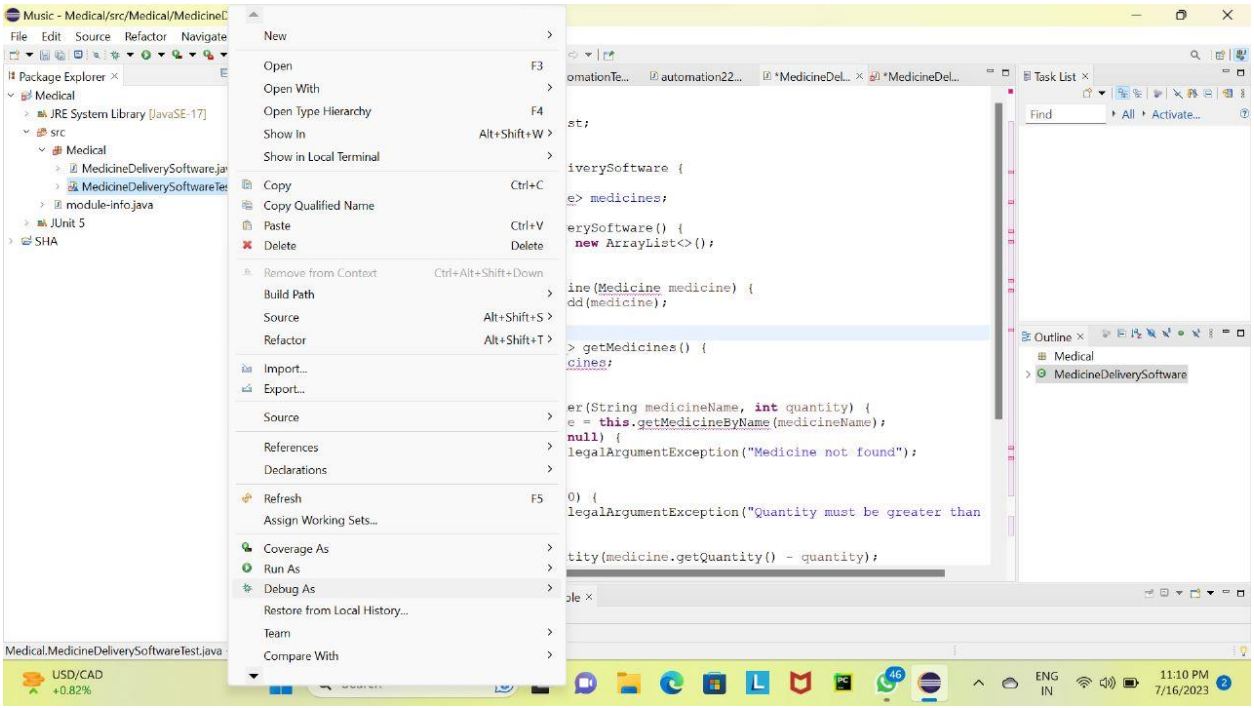
```
import org.junit.Test;

public class MedicineDeliverySoftwareTest {
```

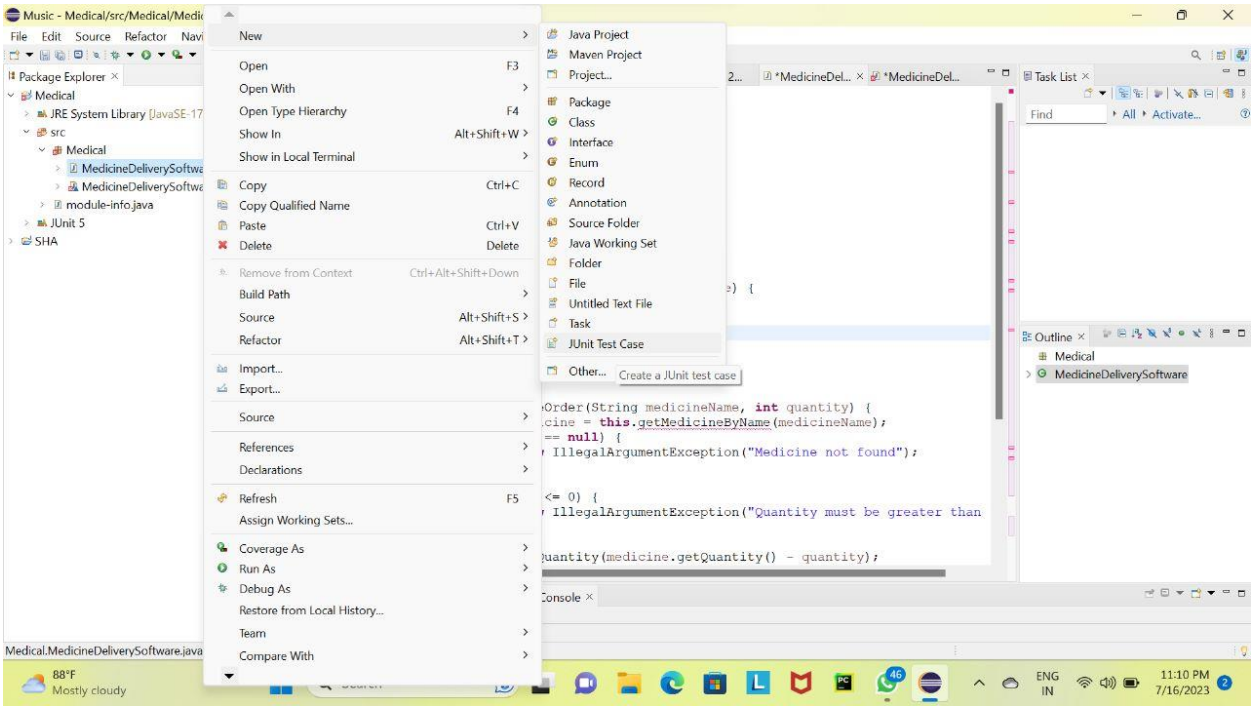
```
@Test
public void testAddMedicine() {
    MedicineDeliverySoftware software = new MedicineDeliverySoftware();
    Medicine medicine = new Medicine("Advil", 10);
    software.addMedicine(medicine);

    List<Medicine> medicines = software.getMedicines();
    assertEquals(1, medicines.size());
    assertEquals("Advil", medicines.get(0).getName());
    assertEquals(10, medicines.get(0).getQuantity());
}

@Test
public void testPlaceOrder() {
    MedicineDeliverySoftware software = new MedicineDeliverySoftware();
    Medicine medicine = new Medicine("Advil", 10);
    software.addMedicine(medicine);

    software.placeOrder("Advil", 5);

    assertEquals(5, medicine.getQuantity());
}

@Test
public void testPlaceOrderWithInvalidMedicine() {
    MedicineDeliverySoftware software = new MedicineDeliverySoftware();

    try {
        software.placeOrder("Tylenol", 5);
    } catch (IllegalArgumentException e) {
        assertEquals("Medicine not found", e.getMessage());
    }
}

@Test
public void testPlaceOrderWithInvalidQuantity() {
    MedicineDeliverySoftware software = new MedicineDeliverySoftware();
    Medicine medicine = new Medicine("Advil", 10);
    software.addMedicine(medicine);

    try {
        software.placeOrder("Advil", -5);
```

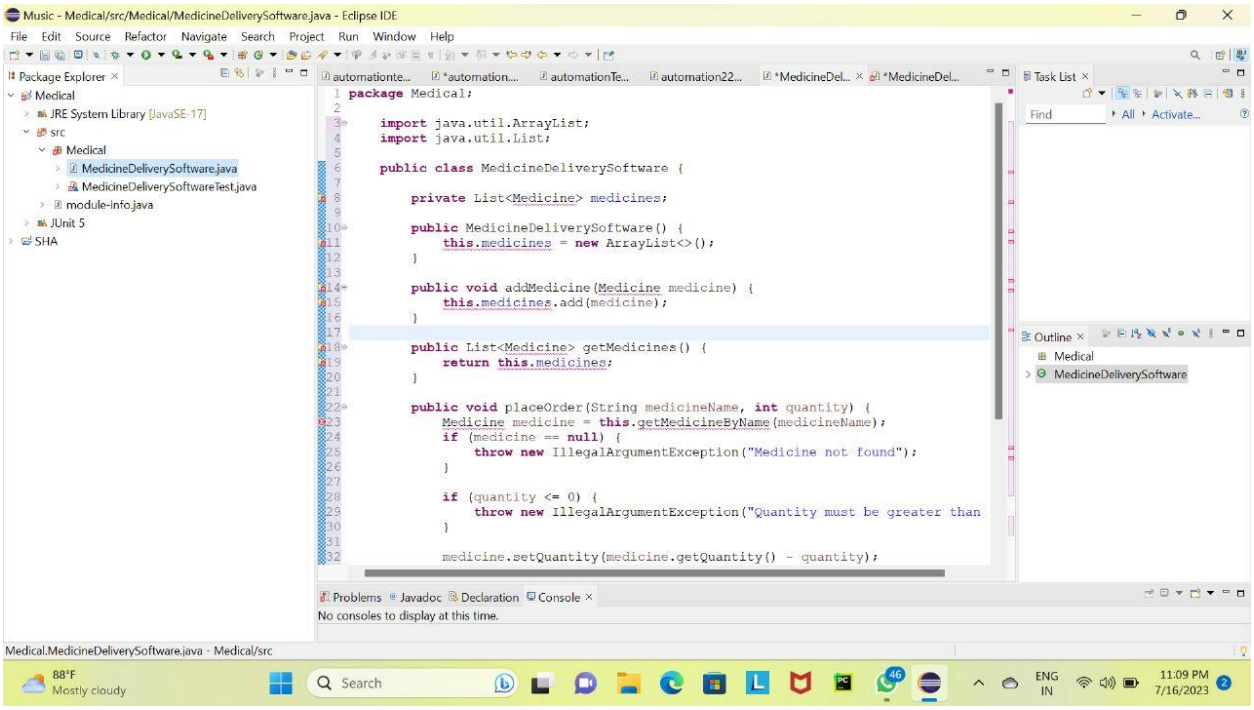
```
        } catch (IllegalArgumentException e) {
            assertEquals("Quantity must be greater than 0", e.getMessage());
        }
    }
}
```

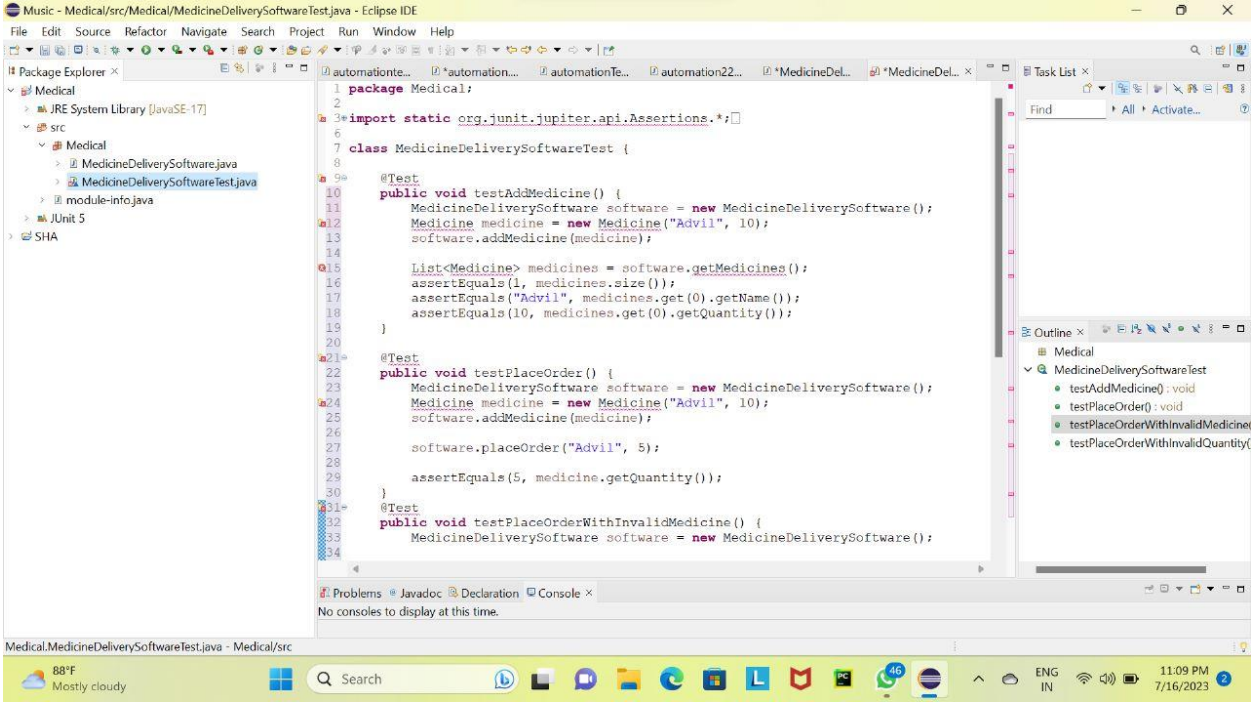
Output screenshots from Eclipse software:






Music - Medical/src/Medical/Medi
File Edit Source Refactor Navi
Package Explorer
Medical
JRE System Library [JavaSE-17]
src
Medical
MedicineDeliverySoftwa
MedicineDeliverySoftwa
module-info.java
JUnit 5
SHA
New
Open F3
Open With
Open Type Hierarchy F4
Show In Alt+Shift+W
Show in Local Terminal
Copy Ctrl+C
Copy Qualified Name
Paste Ctrl+V
Delete Delete
Remove from Context Ctrl+Alt+Shift+Down
Build Path
Source Alt+Shift+S
Refactor Alt+Shift+T
Import...
Export...
Source
References
Declarations
Refresh F5
Assign Working Sets...
Coverage As
Run As
Debug As
Restore from Local History...
Team
Compare With
Java Project
Maven Project
Project...
Package
Class
Interface
Enum
Record
Annotation
Source Folder
Java Working Set
Folder
File
Untitled Text File
Task
JUnit Test Case
Other...
Create a JUnit test case
Task List
Find
All
Activate...
Outline
Medical
MedicineDeliverySoftware
Console
Medical.MedicineDeliverySoftware.java
88°F
Mostly cloudy
ENG
IN
11:10 PM
7/16/2023

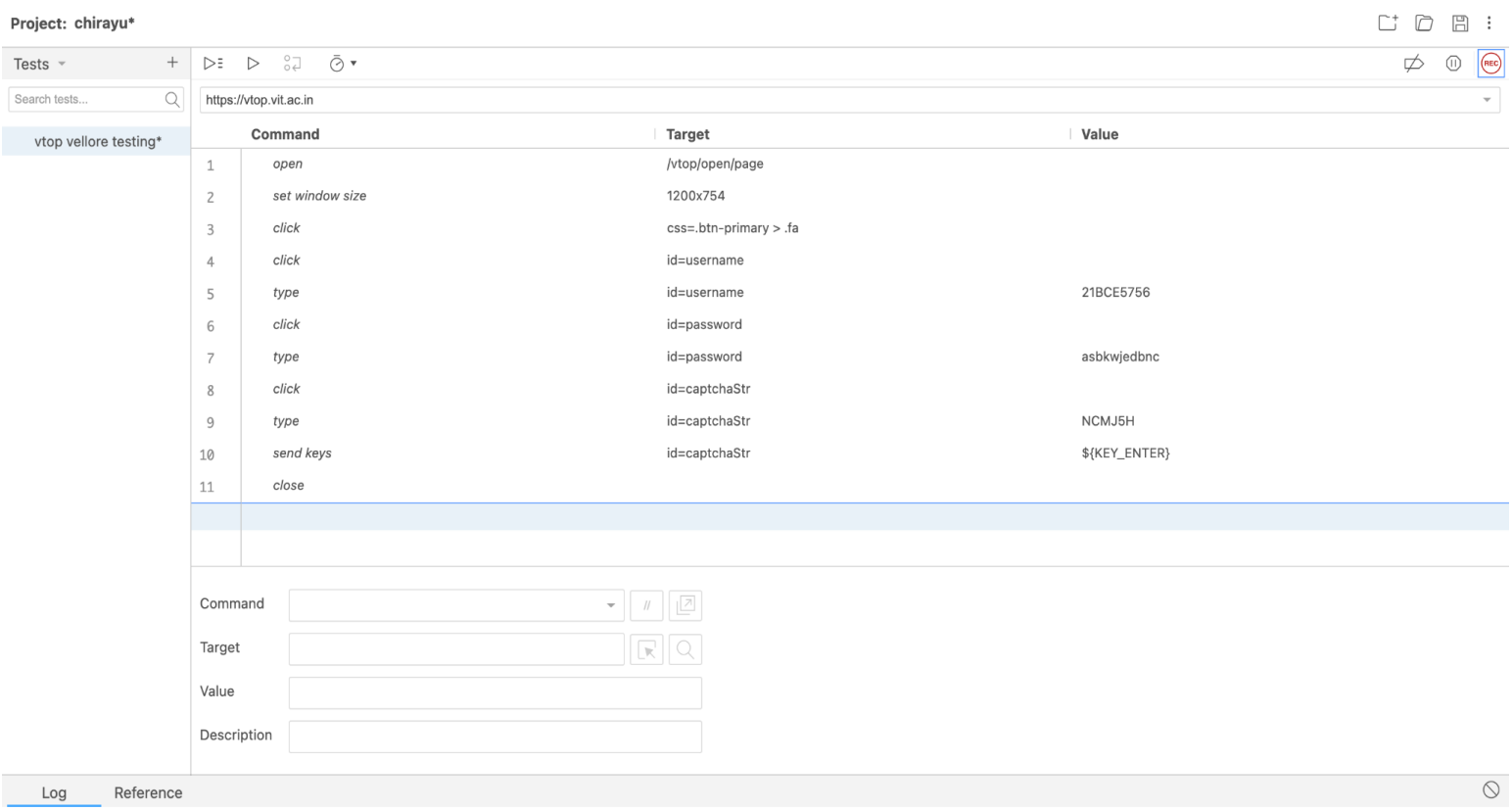

Music - Medical/src/Medical/MedicineDeliverySoftware.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Medical
JRE System Library [JavaSE-17]
src
Medical
MedicineDeliverySoftware.java
MedicineDeliverySoftwareTest.java
module-info.java
JUnit 5
SHA
automationte...
*automation...
automationTe...
automation22...
*MedicineDel...
*MedicineDel...
package Medical;
import java.util.ArrayList;
import java.util.List;
public class MedicineDeliverySoftware {
private List<Medicine> medicines;
public MedicineDeliverySoftware() {
this.medicines = new ArrayList<>();
}
public void addMedicine(Medicine medicine) {
this.medicines.add(medicine);
}
public List<Medicine> getMedicines() {
return this.medicines;
}
public void placeOrder(String medicineName, int quantity) {
Medicine medicine = this.getMedicineByName(medicineName);
if (medicine == null) {
throw new IllegalArgumentException("Medicine not found");
}
if (quantity <= 0) {
throw new IllegalArgumentException("Quantity must be greater than
}
medicine.setQuantity(medicine.getQuantity() - quantity);
Task List
Find
All
Activate...
Outline
Medical
MedicineDeliverySoftware
Problems
Javadoc
Declaration
Console
No consoles to display at this time.
Medical.MedicineDeliverySoftware.java - Medical/src
88°F
Mostly cloudy
Search
ENG
IN
11:09 PM
7/16/2023



Next task-

Implement Regression testing using Selenium-Object Finder

Website chosen: Vtop (VIT Vellore)



Result: Hence, the recording screenshot has been displayed above about the login portal of VIT Vellore.