

CMSC203 Assignment 1 Implementation

Class: CMSC203 CRN XXXX

Program: Assignment #1

Instructor: Ahmed Tarek

Summary of Description: Build an application that will step through some possible problems to restore internet connectivity. Assume that your computer uses wi-fi to connect to a router which connects to an Internet Service Provider (ISP) which connects to the Internet.

Due Date: 02/08/2000

Integrity Pledge: I pledge that I have completed the programming assignment independently. I have not copied the code from a student or any source.

Part1: Pseudo Code: Here is a pseudo code for Assignment 1 program:

```
import java.util.Scanner
public class Wif this is trueiDiagnosis

    public static void main(String[] args)
        Scanner str = new Scanner(System.in)

        Display("Reboot the computer and try to connect")
        Display("Did that fix the problem?")
        Display("Type yes or no: ")

        String responds = str.nextLine()

        if this is true(responds.contains("yes"))

            Display("done")

        if this is

true(responds.contains("no"))

        Display("Reboot the router and

try to connect")

        Display("Did that fix the

problem?")

        Display("Type yes or no: ")
        responds = str.nextLine()

        if this is

true(responds.contains("yes"))

        Display("done")
```

```

                                                                    if this is
true(responds.contains("no"))

Display("Make sure the cables connecting the router are firmly plugged in and power
is getting to the router")

Display("Did that fix the problem?")

Display("Type Yes or No: ")
    responds = str.nextLine()
        if this is true(responds.contains("yes"))

            Display("done")

        if this is true(responds.contains("no"))

            Display("Move the computer closer to the router and try to
connect")

            Display("Did that fix the problem?")

            Display("Type yes or no: ")
            responds = str.nextLine()
            if this is true(responds.contains("yes"))

                Display("done")

            if this is true(responds.contains("no"))

                Display("Contact your ISP")

```

```
str.close()
```

Part2: Comprehensive Test Plan

A good test plan should be comprehensive. This means you should have a few test cases that test when the input is in and out of range, division by 0, incorrect Data type, etc (Provide valid and invalid input)

Cases	Input	Expected Output	Actual Output	Did Test Pass?
Case 1	No-No-No-No	Reboot the computer and try to connect Did that fix the problem? Type yes or no: no Reboot the router and try to connect Did that fix the problem? Type yes or no: no Make sure the cables connecting the router are firmly plugged in and power is getting to the router Did that fix the problem? Type Yes or No: no Move the computer closer to the router and try to connect Did that fix the problem? Type yes or no: no Contact your ISP	Reboot the computer and try to connect Did that fix the problem? Type yes or no: no Reboot the router and try to connect Did that fix the problem? Type yes or no: no Make sure the cables connecting the router are firmly plugged in and power is getting to the router Did that fix the problem? Type Yes or No: no Move the computer closer to the router and try to connect Did that fix the problem? Type yes or no: no Contact your ISP	Yes
Case 2	no-no-no-yes	Reboot the computer and try to connect	Reboot the computer and try to connect	Yes

		<p>Did that fix the problem?</p> <p>Type yes or no: no</p> <p>Reboot the router and try to connect</p> <p>Did that fix the problem?</p> <p>Type yes or no: no</p> <p>Make sure the cables connecting the router are firmly plugged in and power is getting to the router</p> <p>Did that fix the problem?</p> <p>Type Yes or No: no</p> <p>Move the computer closer to the router and try to connect</p> <p>Did that fix the problem?</p> <p>Type yes or no: yes done</p>	<p>Did that fix the problem?</p> <p>Type yes or no: no</p> <p>Reboot the router and try to connect</p> <p>Did that fix the problem?</p> <p>Type yes or no: no</p> <p>Make sure the cables connecting the router are firmly plugged in and power is getting to the router</p> <p>Did that fix the problem?</p> <p>Type Yes or No: no</p> <p>Move the computer closer to the router and try to connect</p> <p>Did that fix the problem?</p> <p>Type yes or no: yes done</p>	
Case 3	no-yes	<p>Reboot the computer and try to connect</p> <p>Did that fix the problem?</p> <p>Type yes or no: no</p> <p>Reboot the router and try to connect</p> <p>Did that fix the problem?</p> <p>Type yes or no: yes done</p>	<p>Reboot the computer and try to connect</p> <p>Did that fix the problem?</p> <p>Type yes or no: no</p> <p>Reboot the router and try to connect</p> <p>Did that fix the problem?</p> <p>Type yes or no: yes done</p>	Yes
Case 4	yes	<p>Reboot the computer and try to connect</p> <p>Did that fix the problem?</p> <p>Type yes or no: yes done</p>	<p>Reboot the computer and try to connect</p> <p>Did that fix the problem?</p> <p>Type yes or no: yes done</p>	Yes

Part3: Screenshots related to the Test Plan:

Case 1

The screenshot shows the Eclipse IDE with the WiFiDiagnosis.java file open. The code is as follows:

```
42  
43     }  
44     else if(responds.contains("no"))  
45     {  
46         System.out.println("Make sure the cables connecting the router are firmly plugged in and power is getting  
47         System.out.println("Did that fix the problem?");  
48         System.out.print("Type Yes or No: ");  
49         responds = str.nextLine();  
50         if(responds.contains("yes"))  
51         {  
52             System.out.println("done");  
53         }  
54     }  
55     else if(responds.contains("no"))  
56     {  
57         System.out.println("Move the computer closer to the router and try to connect");  
58         System.out.println("Did that fix the problem?");  
59         System.out.print("Type yes or no: ");  
60         responds = str.nextLine();  
61         if(responds.contains("yes"))  
62         {  
63             System.out.println("done");  
64         }  
65     }  
66 }
```

The console output shows the following sequence of events:

```
<terminated> WiFiDiagnosis (3) [Java Application] C:\Users\yvand\p2\pool\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64.16.0.2.v20210721-1149\jre\bin\j  
Reboot the computer and try to connect  
Did that fix the problem?  
Type yes or no: no  
Reboot the router and try to connect  
Did that fix the problem?  
Type yes or no: no  
Make sure the cables connecting the router are firmly plugged in and power is getting to the router  
Did that fix the problem?  
Type Yes or No: no  
Move the computer closer to the router and try to connect  
Did that fix the problem?  
Type yes or no: no  
Contact your ISP
```

Case 2

The screenshot shows the Eclipse IDE with the WiFiDiagnosis.java file open. The code is as follows:

```
42  
43     }  
44     else if(responds.contains("no"))  
45     {  
46         System.out.println("Make sure the cables connecting the router are firmly plugged in and power is getting  
47         System.out.println("Did that fix the problem?");  
48         System.out.print("Type Yes or No: ");  
49         responds = str.nextLine();  
50         if(responds.contains("yes"))  
51         {  
52             System.out.println("done");  
53         }  
54     }  
55     else if(responds.contains("no"))  
56     {  
57         System.out.println("Move the computer closer to the router and try to connect");  
58         System.out.println("Did that fix the problem?");  
59         System.out.print("Type yes or no: ");  
60         responds = str.nextLine();  
61         if(responds.contains("yes"))  
62         {  
63             System.out.println("done");  
64         }  
65     }  
66 }
```

The console output shows the following sequence of events:

```
<terminated> WiFiDiagnosis (3) [Java Application] C:\Users\yvand\p2\pool\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64.16.0.2.v20210721-1149\jre\bin\j  
Reboot the computer and try to connect  
Did that fix the problem?  
Type yes or no: no  
Reboot the router and try to connect  
Did that fix the problem?  
Type yes or no: no  
Make sure the cables connecting the router are firmly plugged in and power is getting to the router  
Did that fix the problem?  
Type Yes or No: no  
Move the computer closer to the router and try to connect  
Did that fix the problem?  
Type yes or no: yes  
done
```

Case 3

The screenshot shows the Eclipse IDE with the 'WiFiDiagnosis.java' file open. The Package Explorer on the left shows the project structure. The main editor displays the following Java code:

```
42  
43  
44     }  
45     else if(responds.contains("no"))  
46     {  
47         System.out.println("Make sure the cables connecting the router are firmly plugged in and power is getting");  
48         System.out.println("Did that fix the problem?");  
49         System.out.print("Type Yes or No: ");  
50         responds = str.nextLine();  
51         if(responds.contains("yes"))  
52         {  
53             System.out.println("done");  
54         }  
55     }  
56     else if(responds.contains("no"))  
57     {  
58         System.out.println("Move the computer closer to the router and try to connect");  
59         System.out.println("Did that fix the problem?");  
60         System.out.print("Type yes or no: ");  
61         responds = str.nextLine();  
62         if(responds.contains("yes"))  
63         {  
64             System.out.println("done");  
65         }  
66     }  
67     else if(responds.contains("no"))  
68     {  
69         System.out.print("Contact your ISP");  
70     }  
71 }
```

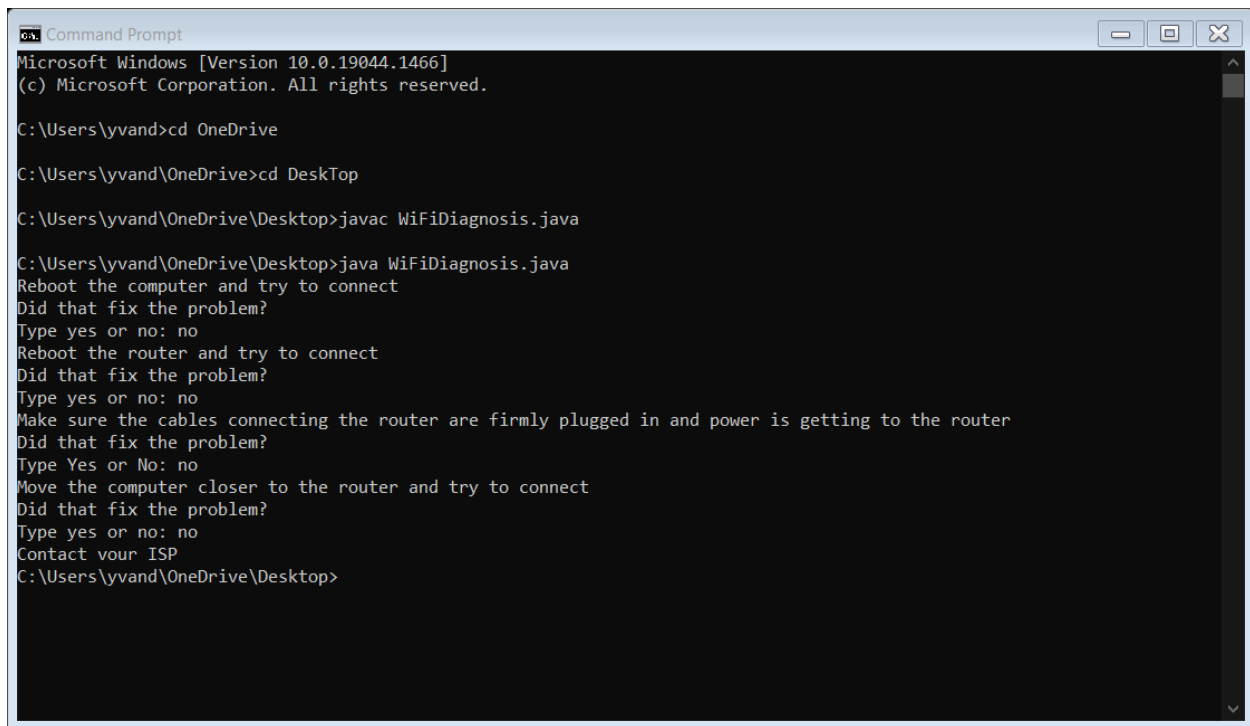
The Console window at the bottom shows the following output:

```
<terminated> WiFiDiagnosis (3) [Java Application] C:\Users\yvand\p2\pool\plugins\org.eclipse.justi.openjdk.hotspot.jre.full.win32.x86_64_16.0.2.v20210721-1149\jre\bin\ja  
Reboot the computer and try to connect  
Did that fix the problem?  
Type yes or no: no  
Reboot the router and try to connect  
Did that fix the problem?  
Type yes or no: yes  
done
```

Case 4

This screenshot is identical to the one above, showing the same Eclipse IDE environment with the 'WiFiDiagnosis.java' file and its console output.

Project running on the command line

A screenshot of a Windows Command Prompt window. The title bar reads "Command Prompt". The window content shows the following text:

```
Microsoft Windows [Version 10.0.19044.1466]
(c) Microsoft Corporation. All rights reserved.

C:\Users\yvand>cd OneDrive
C:\Users\yvand\OneDrive>cd DeskTop
C:\Users\yvand\OneDrive\Desktop>javac WiFiDiagnosis.java
C:\Users\yvand\OneDrive\Desktop>java WiFiDiagnosis.java
Reboot the computer and try to connect
Did that fix the problem?
Type yes or no: no
Reboot the router and try to connect
Did that fix the problem?
Type yes or no: no
Make sure the cables connecting the router are firmly plugged in and power is getting to the router
Did that fix the problem?
Type Yes or No: no
Move the computer closer to the router and try to connect
Did that fix the problem?
Type yes or no: no
Contact your ISP
C:\Users\yvand\OneDrive\Desktop>
```

Lessons Learned:

In this first project in computer science 203 I was able to recycle some of the skills I had in computer science 140 to tackle the task I was given. I had to do a lot of research to implement some of the code in my project. I'm still new to the world of Java but knowing where to find the information I need to complete this kind of project give me a lot of confidence moving forward. I didn't really struggle doing this first project, this is mostly because I was so excited to complete my first java project. In the next project I would do the design part better, I feel like I could have done a better job on that part even though I got full credit for the work I did. I was successful at understanding the concept of the Wi-Fi diagnosis and implementing the right code that reflect the flow chart. I'm still looking to improve my skills and I'm really starting to like Java.

Check List: <Provide answers to the column Y/N or N/A >:

#		Y/N	Comments
1.	Assignment files:		
	• FirstInitialLastName_Assignment#_Moss.zip	Yes or No	Y
	• FirstInitialLastName_Assignment#.docx/.pdf	Yes or No	Y
	• Source java files	Yes or No	Y
2.	Program compiles	Yes or No	Y
3.	Program runs with desired outputs related to a Test Plan	Yes or No	Y
4.	Documentation file:		
	• Comprehensive Test Plan	Yes or No	Y
	• Screenshots related to the Test Plan	Yes or No	Y
	• Screenshots of your GitHub account with submitted Assignment# (if required)	Yes or No or N/A	Y
	• UML Diagram (if required)	Yes or No or N/A	Y
	• Algorithms/Pseudocode (if required)	Yes or No or N/A	Y
	• Flowchart (if required)	Yes or No or N/A	Y
	• Lessons Learned	Yes or No	Y
	• Checklist is completed and included in the Documentation	Yes or No	Y