**Questions**

1. We have new test node (ExtendedTest) that is not compatible with current interface defined for test (ITest). Write Adapter for this code. Explain the pattern and where it is used normally.

public interface ITest

{

bool prepareSetup(string configMode);

void performCalibration(object configSetting);

string performTest();

}

class ExtendedTest

{

public string performExtendedTest()

{

///....

return “performing Exetended Test through adaptee”;

}

}

static void Main(string[] args)

{

ExtendedTest newTest = new ExtendedTest();

ITest target = new Adapter(newTest);

Console.Write(target.performTest());

}

Output : 

1. **G**iven instance of code below, Radius is set by separate decoupled code. write code line that calculates area of Circle.

public sealed class Circle

{

private double radius;

public double Calculate(Func<double, double> op)

{

return op(radius);

}

}

The following strings contain the hexadecimal values of two points of a curve gain vs temperature

"var1/ext23/gainX1 0X14"

"var1/ext23/gainX2 0X3C"

"var2/ext56/tempY1 0X5F"

"var2/ext56/tempY2 0X2A"

Create a program using c# that can:

1. Ask the user to input the temperature.
2. Extract the Hexadecimal value from the strings above mentioned, convert them to decimal and calculate the gradient(slope) and Y-intercept point.
3. Print out the values of the gradient, Y-intercept and calculate the gain value given the temperature submitted by the user.
4. What would be the gain if the temperature is 25?
5. Write a program in C# that will give the user the correct SCPI command string if a user wants to control properties of an Analog Signal Generator R&S SMA100B.
6. Set Frequency in Ghz
7. Set output level in dBm with two decimals
8. Enable output

The user should be able to execute the program, choose the action(set Frequency, Set Level or enable output) and give input the value if needed. The program should, in return, print the correct generated SCPI command string with the values given by the user.

Use a separate assembly for the command generator in the case the user later wants to add more control commands to the program.