

This is your opportunity to showcase your skill to us, so take as much time as you feel appropriate to show us what makes you stand out. You are absolutely welcome and encouraged to ask questions if you need clarification.

1. The electronic color code (http://en.wikipedia.org/wiki/Electronic_color_code) is used to indicate the values or ratings of electronic components, very commonly for resistors. Write a class that implements the following interface. Feel free to include any supporting types as necessary.

```
public interface IOhmValueCalculator
{
    /// <summary>
    /// Calculates the Ohm value of a resistor based on the band colors.
    /// </summary>
    /// <param name="bandAColor">The color of the first figure of component value band.</param>
    /// <param name="bandBColor">The color of the second significant figure band.</param>
    /// <param name="bandCColor">The color of the decimal multiplier band.</param>
    /// <param name="bandDColor">The color of the tolerance value band.</param>
    int CalculateOhmValue(string bandAColor, string bandBColor, string bandCColor, string bandDColor);
}
```

2. Using your favorite unit test framework, write the unit tests you feel are necessary to adequately test the code you wrote as your answer to question one.

3. Create a Reactjs web interface that will allow someone to use the calculator you created in step one.

4. The Multiplier and Tolerance band values must be extracted from a database.

5. Submit your code by a public or private repository like github. Your repository should include instructions on how to set up, compile & run your application. You can assume your instructions will be read by a developer.

6. We will look at your GUI, API, DB layers so it's important we are able to compile and run your application. Please also provide the database files (scripts, documents, etc.) for creating the schema (if using a relational db) and populating the required data.