

Color converter

Glance through the source code before reading this.

Read this document all the way to the end before you start programming.

Overview

An existing ASP.NET Core Web API written in C# has a single end-point that accepts a 6-digit hexadecimal number as a representation of a color. For instance when initiating a request with the input value of `8e35ef` it will respond with this object:

```
{
  "hexTriplet": "8e35ef",
  "name": "Purple",
  "rgbDecimal": [142, 53, 239],
  "rgbPercentage": [55.7, 20.8, 93.7],
  "cmyk": [41, 78, 0, 6],
  "hsl": [269.0, 85.3, 57.3],
  "hsv": [269.0, 85.3, 93.7],
  "xyz": [28.008, 14.529, 82.99]
}
```

The API has translated the hexadecimal color representation to several other color representations.

Problem

The API does what it's supposed to do. The programmer, however, hasn't done a very good job. The source code doesn't meet code quality standards. For instance, it's not reusable, hard to maintain and not future proof.

Your assignment

It's your job to improve the code.

Prepare code that anticipates conversions from any color representation to any other color representation.

Important note: it is NOT your job to implement code that does the actual conversions. Limit yourself to reorganizing existing code and anticipating future requirements.

How you tackle this problem is completely up to you. Feel free to choose any architecture, design pattern that you feel comfortable with.

You have two hours to work on this test. The goal is to showcase what you can do within this time. After the test you are given the opportunity to motivate your choices. Good luck!