

Automated Testing Framework for the Tanaguru Contrast Finder

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Introduction

In this project we designed and built an automated testing framework for the Tanaguru Contrast Finder



Materials and Methods

The items used for this project were Java, GitHub, Linux and the Tanaguru team’s code base.

Further information

<https://github.com/csci-362-02-2020/Beach-Boys>

Results

After successfully building our automated testing framework, we effectively tested five methods in the ColorConverter.java class. These five methods were getBrightness, getSaturation, getHue, rgb2Hex and hex2Rgb. For each of these methods, we developed five test cases for a total of twenty-five tests cases. The results of each test can be seen below

Test Number	Requirement	Component	Method	Input	Expected Output	Output	Passed?
6	outputs brightness of color	ColorConverter	getBrightnessDriver	0x00FF00	1.00	1.00	Passed
7	outputs brightness of color	ColorConverter	getBrightnessDriver	0xFF0000	1.00	1.00	Passed
8	outputs brightness of color	ColorConverter	getBrightnessDriver	0x0000FF	1.00	1.00	Passed
9	outputs brightness of color	ColorConverter	getBrightnessDriver	0x000000	0.00	0.00	Passed
10	outputs brightness of color	ColorConverter	getBrightnessDriver	0x800080	0.50	0.50	Passed
16	outputs hue of color	ColorConverter	getHueDriver	0xFF0000	0.00	0.00	Passed
17	outputs hue of color	ColorConverter	getHueDriver	0x00FF00	0.33	0.33	Passed
18	outputs hue of color	ColorConverter	getHueDriver	0x0000FF	0.67	0.67	Passed
19	outputs hue of color	ColorConverter	getHueDriver	0x000000	0.00	0.00	Passed
20	outputs hue of color	ColorConverter	getHueDriver	0x800080	0.83	0.83	Passed
11	outputs saturation of color	ColorConverter	getSaturationDriver	0x000000	0.00	0.00	Passed
12	outputs saturation of color	ColorConverter	getSaturationDriver	0xFFFFFF	0.00	0.00	Passed
13	outputs saturation of color	ColorConverter	getSaturationDriver	0xFF0000	1.00	1.00	Passed
14	outputs saturation of color	ColorConverter	getSaturationDriver	0xFFFF00	1.00	1.00	Passed
15	outputs saturation of color	ColorConverter	getSaturationDriver	0x800080	1.00	1.00	Passed
1	Converts hex value to rgb	ColorConverter	hex2rgbDriver	FF0000	Red Value: 255; Green Value: 0; Blue Value: 0	Red Value: 255; Green Value: 0; Blue Value: 0	Passed
2	Converts hex value to rgb	ColorConverter	hex2rgbDriver	00FF00	Red Value: 0; Green Value: 255; Blue Value: 0	Red Value: 0; Green Value: 255; Blue Value: 0	Passed
3	Converts hex value to rgb	ColorConverter	hex2rgbDriver	0000FF	Red Value: 0; Green Value: 0; Blue Value: 255	Red Value: 0; Green Value: 0; Blue Value: 255	Passed
4	Converts hex value to rgb	ColorConverter	hex2rgbDriver	0x000000	Red Value: 0; Green Value: 0; Blue Value: 0	null	Failed
5	Converts hex value to rgb	ColorConverter	hex2rgbDriver	800080	Red Value: 128; Green Value: 0; Blue Value: 128	Red Value: 128; Green Value: 0; Blue Value: 128	Passed
21	outputs the hex from color given	ColorConverter	rgb2hexDriver	0x0000FF	#0000FF	#0000FF	Passed
22	outputs the hex from color given	ColorConverter	rgb2hexDriver	0x00FF00	#00FF00	#00FF00	Passed
23	outputs the hex from color given	ColorConverter	rgb2hexDriver	0xFF0000	#FF0000	#FF0000	Passed
24	outputs the hex from color given	ColorConverter	rgb2hexDriver	0x000000	#000000	#000000	Passed
25	outputs the hex from color given	ColorConverter	rgb2hexDriver	0x800080	#800080	#800080	Passed

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```
1 6
2 outputs brightness of color
3 ColorConverter
4 getBrightness
5 0x00FF00
6 1.00
```

Conclusions

Working on this project was an enlightening experience that helped us to develop our testing abilities. The Tanaguru project was very interesting to work with and challenged our Java and Bash coding skills. Working on an open source project gave us better insight to the structure and methods used in a professional programming environment.

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