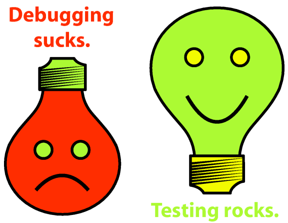
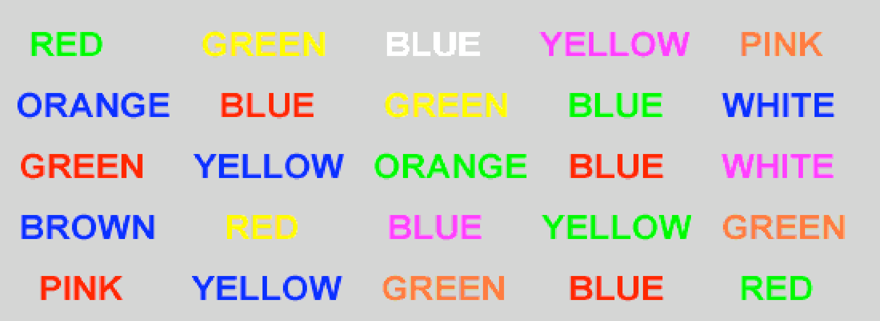


Testing on the Toilet
The Stroop Effect

Feb. 7, 2008

How quickly can you...

1. ...read all 25 **words** out loud:
   RED, GREEN, BLUE, ...
   (Try it now!)
2. ...say all 25 **colors** out loud:
   GREEN, YELLOW, WHITE...
   (Try it now!)



RED	GREEN	BLUE	YELLOW	PINK
ORANGE	BLUE	GREEN	BLUE	WHITE
GREEN	YELLOW	ORANGE	BLUE	WHITE
BROWN	RED	BLUE	YELLOW	GREEN
PINK	YELLOW	GREEN	BLUE	RED

Did the second task require more time and effort? If so, you're experiencing the **Stroop Effect**, which roughly says that when a *label* (in this case, the word) is in the same domain as its *content* (the color) with a conflicting meaning, the label interferes with your ability to comprehend the content.

What does this have to do with testing? Consider the following code:

```
public void testProtanopiaColorMatcherIsDistinguishable() {
  ColorMatcher colorMatcher = new ColorMatcher(PROTANOPIA);
  assertFalse("BLUE and VIOLET are indistinguishable",
              colorMatcher.isDistinguishable(Color.BLUE, Color.VIOLET));
}
```

When this test fails, it produces a message like this:

```
Failure: testProtanopiaColorMatcherIsDistinguishable:
Message: BLUE and VIOLET are indistinguishable
```

Quick: what caused this error? Were BLUE and VIOLET indistinguishable, or not? If you're hesitating, that's the Stroop Effect at work! The *label* (the message) expresses a truth condition, but the *content* (in `assertFalse`) expresses a false condition. Is the ColorMatcher doing the wrong thing, or is the test condition bogus? This message is wasting your valuable time! Now consider this slight alteration to the test name and test message:

```
Failure: testProtanopiaColorMatcherCannotDistinguishBetweenCertainPairsOfColors
Message: BLUE and VIOLET should be indistinguishable
```

Do you find this clearer? Protanopia (reduced sensitivity to the red spectrum) causes certain pairs of colors to be indistinguishable. BLUE and VIOLET *should* have been indistinguishable, but *weren't*.

- When someone breaks your test – will your test name and message be useful to them?
- Opinionated test names like *`testMethodDoesSomething`* can be more helpful than *`testMethod`*.
- Great test messages not only identify the actual behavior, but also the expected behavior.
- **Should** is a handy word to use in messages – it clarifies what **expected** behavior didn't **actually** happen.

More information, discussion, and archives:
http://googletesting.blogspot.com