# *Systems III (420-E31-HR)*

# *Assignment 2 – Standards*

Date assigned: Wednesday, Sept 27, 2017

Date due: **Wednesday, October 18, 2017**

**Learning Objectives**

Upon successful completion of this assignment, the student will be able to:

* Analyze and apply standards for development

To do:

**Part A: Standards**

1. Read the Google Java coding standards document. [Java Style Guide](https://google.github.io/styleguide/javaguide.html)

Using the source file provided. Fill out the code-inspection/defect list below for the file:

|  |  |  |  |
| --- | --- | --- | --- |
| File name: | SimpleCountingIdlingResource.java |  |  |
| Version/Date | October 6, 2017 |  |  |
| **Line Number** | **Defect/Violation Description** | **Section Ref (from Guide)** | **Fixed code** |
| Whole doc | 4 spaces instead of 2 | 4.2 |  |
| 22 | Static import supposed to be before non-static imports | 3.3.3 | import static com.google.common.base.Preconditions.checkNotNull;  import android.support.annotation.NonNull; |
| 22 | No blank line separating static and non-static imports | 3.3.3 | import static com.google.common.base.Preconditions.checkNotNull;  import android.support.annotation.NonNull; |
| 27 | Column limit 100 | 4.4 | \* non-zero it is not idle. This is very similar to the way a  \* {@link java.util.concurrent.Semaphore} |
| 38 | mResourceName variable has a prefix to it, that should not happen | 5.1 | private final String resourceName; |
| 56 | Method name is not a verb or phrase | 5.2.3 | public boolean getIsIdle() { |
| 60-63 | Methods not in the most logical order | 3.4.2 | Move registerIdleTransitionCallback to the underneath the class’s constructor, since both methods are technically mutator methods. |
|  |  |  |  |

Hint: Identify at least seven violations.

1. Read about the Google Java Coding standards at [this link](https://www.infoq.com/news/2014/02/google-java-coding-standards). Note that Google is doing this for [all the languages that it uses](https://google.github.io/styleguide/), not just Java. Why is Google going to this effort to impose its iron fist over the free will of creative, everyone is a special snowflake –type programmers? Explain the benefits of using a coding standard.

Coding standards maximize the maintainability of the code. Even if some people prefer one method over another, if you follow some sort of brace structure/logical indenting, then all code is going to be readable. But this gives massive projects consistency the whole way through. This makes it very easy for a programmer to open-up a source file and locate a specific method, since the style guide requires logical ordering of the file contents. When someone opens a google file, they know what they can expect from it, and they know that not every file is going to contain some new funky format. Looking at two files with different styles can be confusing when jumping between them, and this gives consistency everywhere.

The creativity in programming comes from the way that you solve a problem; not the language, constructs or style in which you code. All they require is that you throw your code through a formatter before uploading it, which really isn’t that much to ask.

**Marking Scheme**

|  |  |
| --- | --- |
|  | Marks |
| Part A – Development Standard | 18 |
| Organization/English | 5 |
| Total | 23 |

**To submit**

When you have completed the assignment, upload the following documents to Moodle:

* **YourUserName\_E31\_A02\_StandardsSecurity.docx**