Practice 8

This practice could be checked **onsite** in week 8's lab. You could also submit your code and output snapshot to Sakai **before week 9** if you haven't checked the practice onsite. Submissions after week 9 will be considered as late submission.

Introduction

PMD is a source code analyzer that can compute metrics of your project and identify programming flaws.

You could either use it as standalone software or as IDE plugins. For instance, in IntelliJ IDEA, click "File"->"Settings"->"Plugins", you could search for "PMD" and install it.

Then, click "Tools"-> "Run PMD" -> "Predefined" -> "All", you could ask PMD to check your project based on a predefined set of rules.

Below is a PMD run on the Teedy project:

However, check a large project with all rules are slow and sometimes unnecessary. We could define our own set of rules to be checked with.

Task

In this practice, you'll define a customized PMD ruleset that includes only the following rules that we've covered in the lecture:

- Lines of code (LoC)
- Cyclomatic Complexity (CC)
- Weighted Methods per Class (WMC)
- Coupling Between Objects (CBO)
- Lack of Cohesion in Methods (LCOM)

Steps

1. Check here to learn how to define a customized PMD ruleset.
2. Check here for a list of available Java Rules. You need to pick the ones that correspond to or are closely related to the above 5 metrics, and add them into your customized ruleset.
3. In IntelliJ IDEA, click "File" -> "Settings" -> "PMD" to add your customized ruleset.
4. Click "Tools"-> "Run PMD" -> "Customized Rules", select your ruleset, and run again on the Teedy project.

Evaluation

- Show us your customized ruleset file. Explain the rules you've added and why they address the above 5 metrics.
- Show us the PMD execution result on Teedy using the customized ruleset.