Assignment 1

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# Sonarlint Analysis

## A.1.1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S-Number** | **Description** | **Type** | **Severity** | **Number of Violations** |
| S2189 | Loops should not be infinite | Bug | Blocker | 1 |
| S2699 | Tests should include assertions | Code smell | Blocker | 1 |
| S1186 | Methods should not be empty | Code smell | Critical | 2 |
| S1948 | Fields in a "Serializable" class should either be transient or serializable | Code smell | Critical | 1 |
| S2479 | Whitespace and control characters in literals should be explicit | Code smell | Critical | 4 |
| S3252 | "static" base class members should not be accessed via derived types | Code smell | Critical | 1 |
| S3776 | Cognitive Complexity of methods should not be too high | Code smell | Critical | 1 |
| S106 | Standard outputs should not be used directly to log anything | Code smell | Major | 22 |
| S125 | Sections of code should not be commented out | Code smell | Major | 4 |
| S1066 | Collapsible "if" statements should be merged | Code smell | Major | 2 |
| S1161 | "@Override" should be used on overriding and implementing methods | Code smell | Major | 1 |
| S2142 | "InterruptedException" should not be ignored | Bug | Major | 1 |
| S2589 | Boolean expressions should not be gratuitous | Code smell | Major | 2 |
| S4973 | Strings and Boxed types should be compared using "equals()" | Bug | Major | 1 |
| S120 | Package names should comply with a naming convention | Code smell | Minor | 6 |
| S1126 | Return of boolean expressions should not be wrapped into an "if-then-else" statement | Code smell | Minor | 1 |
| S1130 | "throws" declarations should not be superfluous | Code smell | Minor | 1 |
| S1612 | Lambdas should be replaced with method references | Code smell | Minor | 1 |
| S1643 | Strings should not be concatenated using '+' in a loop | Code smell | Minor | 1 |
| S2160 | Subclasses that add fields should override "equals" | Code smell | Minor | 1 |
| S2272 | "Iterator.next()" methods should throw "NoSuchElementException" | Bug | Minor | 1 |

## A.1.2

S106

S2479

S2189

## A.1.3

# PMD Analysis

## A.1.4

|  |  |  |  |
| --- | --- | --- | --- |
| **PMD rule** | **Priority** | **Category** | **Number of Violations** |
| ClassWithOnlyPrivateConstructorsShouldBeFinal | High(1) | Design | 1 |
| UncommentedEmptyMethodBody | Medium(3) | Documentation | 3 |
| ImplicitSwitchFallThrough | Medium(3) | Error prone | 1 |
| ForLoopCanBeForeach | Medium(3) | Best practices | 1 |
| LiteralsFirstInComparisons | Medium(3) | Best practices | 2 |
| CompareObjectsWithEquals | Medium(3) | Error prone | 1 |
| UseEqualsToCompareStrings | Medium(3) | Error prone | 1 |
| CloseResource | Medium(3) | Error prone | 2 |
| SimplifyBooleanReturns | Medium(3) | Design | 1 |
| UnnecessaryImport | Medium low(4) | Code style | 1 |

## A.1.5

ClassWithOnlyPrivateConstructorsShouldBeFinal

UncommentedEmptyMethodBody

## A.1.6

# CodeQL Analysis

## A.1.7

# Comparison

## A.1.8

# User Defined Queries

## A.1.9

## A.1.10

## A.1.11

## A.1.12

## A.1.13