Coding Standards (CG):

1. All source code files must have a file banner comment present and filled in. This banner is available in the templates.java file on Canvas.
2. All public classes must have a class banner comment present and filled in. This banner is available in the templates.java file.
3. All public methods including constructors, except getter/setter methods, must have a method banner comment present and filled in. This banner is available in the templates.java file.
4. Naming conventions are as follows:
   a. Constants and Enums should be in all CAPS (example: PI)
   b. Class names should be upper CamelCase, with the first letter uppercase (example: MyClass).
   c. Variable, Parameter, and Method names should be in lower camelCase, with the first letter in lowercase (example: fooBar).
5. All attributes must be private (class member variables, not constants).
6. All literal values, except loop indices starting at 0 or 1 must be declared as constants.
7. All code should be consistent stylistically. This includes:
   a. All {} should appear with the { at the end of a line and } on its own line
   b. Indentation should be consistent.
   c. All complex statements (if, else, switch, loops) must use explicit {} even if the body is a single line.

Code Smells (CS):

1. Duplicate code
2. Large Class
3. Switch statements
4. Feature Envy: A class that uses methods of other class extensively
5. Lazy class: A class that does too little.
6. Excessive use of literals: these should be coded as named constants.
7. Data clump: A group of variables are passed around together in various parts of the program. Should rather be a single object with these members that can be passed.
8. Method has too many parameters
9. Long method
10. Too long identifiers
11. Too short identifiers

Functional Defects (FD):

Any defects that hinder the program on working correctly