Jfreechart Analysis – Thiago Freitas

Analysis of the dataset output for “class.csv”. The jfreechart code is the data studied for this assignment.

CK Metrics Summary:

**WMC (Weighted Methods per Class)**

Average – 29.1

Median – 14

Maximum – 675

* Generally, WMC between 1-50 suggests simple, maintainable classes for reuse.
* With an average of 29.1, this dataset shows that while many classes are manageable, there are highly complex classes that have too many responsibilities.

**CBO (Coupling Between Objects)**

Average – 6.6

Median – 4

Maximum – 84

* Lower coupling (CBO <= 14) is better for modularity and maintainability.
* However, the maximum of 84 indicates that some classes ChartFactory, are heavily coupled, which increases fragility and makes changes risky.

**DIT (Depth of Inheritance Tree)**

Average – 2.0

Median – 1

Maximum – 7

* A superficial hierarchy (DIT <=5) is usually easier to understand and maintain.
* A few classes are deeply nested (DIT up to 7), which improves reuse but makes the codebase harder to understand and debug.

**Variables (variablesQty)**

Average – 19

Median – 7

Maximum – 354

* Most classes manage a reasonable number of variables.
* Classes like *DatasetUtils* (354 variables) and *XYPlot* (312 variables) hold excessive state, suggesting low cohesion and too many responsibilities.