

Class Lines Of Code Metrics

Collected Metrics Explanation:

Comment Lines Of Code (CLOC):

Lines of code that are exclusively comments.

Javadoc Lines Of Code (JLOC):

Lines of code that are comments pertaining to Javadoc information.

Lines Of Code (LOC):

"LOC is literally the count of the number of lines of text in a file or directory." [1]

Lines Of Code is a type of metric which suffers from "fundamental" problems, due to the amount of information it dismisses, such as effort per line or usefulness of said lines.

Checking for Method LOC metrics could tell us about which methods incur into Long Method code smells, but I decided to focus only on the Class LOC Metrics due to it being, in my opinion, the most useful for easily identifying problems.

Comment Lines Of Code:

Comparing the number of comment lines to the average comment lines could point out which classes incur in code smells for commenting unnecessarily.

It is to note that disparities in numbers of comment lines may not always reveal comment amount code smells, such can be inferred by comparing CLOC to LOC

Javadoc Lines Of Code:

As with comment lines, use of Javadoc LOCs can identify code smells related to comments. Taking both into account at once can easily direct to classes with such code smells.

Lines Of Code:

By subtracting the number of CLOCs and JLOCs to the total number of LOCs we can get the classes' effective lines and compare them to the average to understand which classes infer in codes smells like the Large Class code smell.

Data Analysis:

All classes	CLOC (Comment Lines of code)	JLOC (Javadoc lines of code)	LOC (Lines of code)
Total	20139.0	12852.0	142843.0
Average	10.666843220338983	6.807203389830509	75.65836864406779

1888 Classes in total.

This table shows the CLOCs, JLOCs and LOCs in total and in average for the collection of all classes. Taking a moment to analyse the data, we can deduct that:

Percentage of CLOC that are JDOC = $(12852.0 * 100) / 20139.0$ = approx. 63,816%

Number of effective lines = $142843.0 - 20139.0$ = 122 704 lines

Percentage of effective lines = $(122\ 704 * 100) / 142843.0$ = approx. 85,901%

Percentage of ineffective lines = $100\% - 85,901\%$ = 14,098%

In group, we have concluded that such an amount is decent, the comments are very useful, and this number of comments is likely to be helpful.

However, we can identify classes where these amounts can exceed the average largely, being more of a hindrance rather than helpful. Therefore, to understand where the code smells are, we should look at the classes where comments and lines exceed the average by a large margin.

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References: [1] - <https://confluence.atlassian.com/fisheye/about-the-lines-of-code-metric-960155778.html>; 6/12/2021 at 17:18