

Report Complexity Summary

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Report Name

Lines Of Code Cyclomatic Complexity Structural FanIn Structural FanOut Informational Fan In Informational FanOut Informational Complexity

Sample Reports

Sales Reports

Report Name	Lines Of Code	Cyclomatic Complexity	Structural FanIn	Structural FanOut	Informational Fan In	Informational FanOut	Informational Complexity
CrossTab.rpt	1	2	0	0	1	1	2
Discount Report.rpt	2	2	0	0	3	3	29
Product Details (Subreport)	3	2	0	0	3	3	74
Employee Performance Report.rpt	1	2	0	0	2	2	4
SalesRunningTotal.rpt	1	1	0	0	0	0	0

Cyclomatic complexity

Provides a measure of the structural complexity of a formula. The structural complexity is calculated by the following:

Cyclomatic complexity = Number of branches + 1

Branches are the number of conditional statements in the code eg: If, Then, Else, For etc. The number of test cases required to test a procedure can be directly related to the cyclomatic complexity.

1-10 A simple formula without much risk

11-20 More complex with moderate risk

21-50 Complex formula with high risk

>50 Untestable, very high risk formula

Structural fan-in/fan-out and informational complexity

Structural fan-in = number of formulas that reference this formula

Structural fan-out = number of formulas this formula calls

A high structural fan-in means good design for code re-use in the crystal report

A high structural fan-out means strongly coupled code, or code that has lots of dependencies on other formulas.

Information fan-in = formulas called + report fields referenced + global variables referenced

Information fan-out = formulas that call this formula + report fields referenced + global variables referenced

Information fan-in and fan-out indicate the coupling extent of the code combined with the amount of information each formula is required to process.

Informational complexity = lines of code x (informational fan-in x informational fan-out)

Informational complexity indicates which formulas have excessive functional complexity and may be candidates for extensive testing or redesign.