Report Complexity

Formula Name	Lines Of Code	Cyclomatic Complexity	Structural FanIn	Structural FanOut	Informational Fan In	Informational FanOut	Informational Complexity
📁 Sample Reports							
📁 Sales Reports							
📄 CrossTab.rpt							
{@Group Footer #1a {Customer.Region} - A_BackGroundColor}	1	3	0	0	2	2	4
{@GroupSelection}	1	1	0	0	0	0	0
{@RecordSelection}	1	1	0	0	1	1	1
{@Rgional total}	1	1	0	0	2	2	4
📄 Discount Report.rpt							
{@Discount AMt}	5	6	0	0	7	7	245
{@Group Footer #1 {Customer.Region} - A_BackGroundColor}	1	3	0	0	2	2	4
{@GroupSelection}	1	1	0	0	0	0	0
{@Order +Tax_FontColor}	1	2	0	1	2	1	2
{@Order +Tax_FontStyle}	8	2	0	1	2	1	16
{@Order +Tax}	1	1	4	0	1	5	5
{@Order rating}	1	2	0	0	1	1	1
{@Order subtotal}	1	1	1	0	2	3	6
{@OrderAsPerSubtotal}	1	1	0	1	3	2	6
{@RecordSelection}	3	1	0	0	3	3	27
{@Rgional total}	1	1	0	0	2	2	4
{@Statement}	2	2	0	1	6	5	60
{@Subtotal Order+tax}	1	1	0	1	3	2	6
📄 Product Details (Subreport)							
{@Amount}	1	1	0	0	2	2	4
{@Discount AMt}	5	6	0	0	7	7	245
{@GroupSelection}	1	1	0	0	0	0	0
{@RecordSelection}	3	1	0	0	4	4	48
📄 Employee Performance Report.rpt							
{@GroupSelection}	1	1	0	0	0	0	0
{@Handled by}	1	1	0	0	2	2	4
{@Late orders}	1	3	0	1	2	1	2
{@RecordSelection}	2	1	0	0	2	2	8
{@Shipped within time}	1	3	1	0	2	3	6
📄 SalesRunningTotal.rpt							
{@GroupSelection}	1	1	0	0	0	0	0
{@RecordSelection}	1	1	0	0	0	0	0

See last page for an explanation of the metrics.

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   infromational fan-out)

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