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Area Calculator

Software ENG II

Summary of Complexity findings

Scope	Project	Member	Maintainability Index	Cyclomatic Complexity	Lines of Source code	Lines of Executable code
Assembly	AreaCalculator (Debug)		78	36	126	22
Namespace	AreaCalculator (Debug)		78	36	126	22
Type	AreaCalculator (Debug)		78	36	123	22
Member	AreaCalculator (Debug)	GetSquareArea(double) : double	76	3	12	3
Member	AreaCalculator (Debug)	GetSquareArea(string) : int	82	12	29	1
Member	AreaCalculator (Debug)	GetSquareArea(int) : int	77	3	11	3
Member	AreaCalculator (Debug)	GetRectangleArea(double, double) : double	75	4	11	3
Member	AreaCalculator (Debug)	GetTriangleArea(double, double) : double	75	4	11	3
Member	AreaCalculator (Debug)	GetParallelogramArea(double, double) : double	75	4	11	3
Member	AreaCalculator (Debug)	GetCircleRadius(double) : double	76	3	12	3
Member	AreaCalculator (Debug)	GetCircleDiameter(double) : double	76	3	11	3

Summary of Code Coverage

Hierarchy	Not Covered (Blocks)	Not Covered (% Blocks)	Covered (Blocks)	Covered (% Blocks)
coded_MSI 2021-04-22 13_46_20.coverage	54	27.27%	144	72.73%
areacalculator.dll	49	67.12%	24	32.88%
AreaCalculator	49	67.12%	24	32.88%
Calculator	49	67.12%	24	32.88%
GetCircleDiameter(double)	8	100.00%	0	0.00%
GetCircleRadius(double)	8	100.00%	0	0.00%
GetParallelogramArea(double, double)	0	0.00%	9	100.00%
GetRectangleArea(double, double)	9	100.00%	0	0.00%
GetSquareArea(double)	8	100.00%	0	0.00%
GetSquareArea(int)	7	100.00%	0	0.00%
GetSquareArea(string)	0	0.00%	15	100.00%
GetTriangleArea(double, double)	9	100.00%	0	0.00%
areacalculatortests.dll	5	4.00%	120	96.00%
AreaCalculatorTests	5	4.00%	120	96.00%

Methods Chosen for Testing

- GetSquareArea(string): double
- GetTriangleArea(double, double): double

General narrative about issues and effort to complete.

- My overall experience with this assignment was positive. While I ran into a few issues (listed below). The process of creating a storing a run settings file that stores all my data was insightful.
- Had a bug where I wrote “5” instead of “five” in switch statement.
- Wrote test expecting 0 when the method returns -1.
- Tried to initialize my property values in the TestBase constructor. But when I tried to run the unit test class inheriting from TestBase it threw a null reference exception.
- Testing my GetSquareArea that accepts a string I forgot that it returns the area given a number string e.g. “nine” returns 81. Mistakenly wrote my tests expecting “nine” to return 9.
- Error handling logic was wrong on GetParallelogramArea. Accidently set less than double.MaxValue instead of greater than. Resulting in method always returning fail safe value -1;