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C# static code analysis

Unique rules to find Bugs, Vulnerabilities, Security Hotspots, and Code Smells in your C# code

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Tags

Search by name...

"protected" members
Code Smell

Underscores should be used to make large numbers readable
Code Smell

"ToString()" calls should not be redundant
Code Smell

"==" should not be used when "Equals" is overridden
Code Smell

An abstract class should have both abstract and concrete methods
Code Smell

Multiple variables should not be declared on the same line
Code Smell

Culture should be specified for "string" operations
Code Smell

"switch" statements should have at least 3 "case" clauses
Code Smell

break statements should not be used except for switch cases
Code Smell

String literals should not be duplicated
Code Smell

Files should contain an empty newline at the end
Code Smell

Unused "using" should be removed
Code Smell

Floating point numbers should not be tested for equality

Analyze your code

Bug Major

Floating point math is imprecise because of the challenges of storing such values in a binary representation. Even worse, floating point math is not associative; push a `float` or a `double` through a series of simple mathematical operations and the answer will be different based on the order of those operation because of the rounding that takes place at each step.

Even simple floating point assignments are not simple:

```
float f = 0.100000001f; // 0.1
double d = 0.10000000000000001; // 0.1
```

(Results will vary based on compiler and compiler settings)

Therefore, the use of the equality (==) and inequality (!=) operators on `float` or `double` values is almost always an error.

This rule checks for the use of direct and indirect equality/inequality tests on floats and doubles.

Noncompliant Code Example

```
float myNumber = 3.146f;
if ( myNumber == 3.146f ) //Noncompliant. Because of floatin
{
  // ...
}

if (myNumber <= 3.146f && mNumber >= 3.146f) // Noncompliant
{
  // ...
}

if (myNumber < 4 || myNumber > 4) // Noncompliant indirect i
{
  // ...
}
```

Available In:

sonarlint | sonarcloud | sonarqube

A close curly brace should be located at the beginning of a line

Code Smell

Tabulation characters should not be used

Code Smell

Methods and properties should be named in PascalCase

Code Smell

Track uses of in-source issue suppressions

Code Smell