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C# static code analysis

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

All rules 409 | Vulnerability 34 | Bug 76 | Security Hotspot 28 | Code Smell 271 | Quick Fix 52

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

Magic numbers should not be used

Analyze your code

Code Smell | Major | brain-overload

A magic number is a number that comes out of nowhere, and is directly used in a statement. Magic numbers are often used, for instance to limit the number of iterations of a loop, to test the value of a property, etc.

Using magic numbers may seem obvious and straightforward when you're writing a piece of code, but they are much less obvious and straightforward at debugging time.

That is why magic numbers must be demystified by first being assigned to clearly named variables before being used.

-1, 0 and 1 are not considered magic numbers.

Noncompliant Code Example

```
public static void DoSomething()
{
    for(int i = 0; i < 4; i++)  // Noncompliant, 4 is a magi
    {
        ...
    }
}
```

Compliant Solution

```
private const int NUMBER_OF_CYCLES = 4;

public static void DoSomething()
{
    for(int i = 0; i < NUMBER_OF_CYCLES ; i++)  //Compliant
    {
        ...
    }
}
```

Exceptions

This rule doesn't raise an issue when the magic number is used as part of:

- the `GetHashCode` method
- a variable/field declaration
- the single argument of an attribute
- a named argument for a method or attribute
- a constructor call

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