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# Objective C static code analysis

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

All rules 315

Vulnerability 10

Bug 75

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Tags

Search by name...

"memset" should not be used to delete sensitive data

Vulnerability

POSIX functions should not be called with arguments that trigger buffer overflows

Vulnerability

Function-like macros should not be invoked without all of their arguments

Bug

The address of an automatic object should not be assigned to another object that may persist after the first object has ceased to exist

Bug

"pthread\_mutex\_t" should be unlocked in the reverse order they were locked

Bug

"pthread\_mutex\_t" should be properly initialized and destroyed

Bug

"pthread\_mutex\_t" should not be consecutively locked or unlocked twice

Bug

Functions with "noreturn" attribute should not return

Bug

"memcpy" should only be called with pointers to trivially copyable types with no padding

Bug

Stack allocated memory and non-owned memory should not be freed

Bug

Closed resources should not be accessed

Bug

Dynamically allocated memory should be released

Bug

Only standard forms of the "defined" directive should be used

Analyze your code

Code Smell Blocker based-on-misra bad-practice

The defined preprocessing directive is used in the context of #if and #elif expressions to see whether a given identifier has been defined as a macro. It returns a value of 0 (false) or 1 (true), and has two valid forms, defined IDENTIFIER and defined ( IDENTIFIER ). Since it is essentially a macro existence check, it cannot take expressions as arguments.

Note that since

```
#if defined AN_IDENTIFIER
```

is equivalent to

```
#ifdef AN_IDENTIFIER
```

defined is most useful when there are multiple arguments to check, E.G.

```
#if defined AAA || defined BBB
```

Noncompliant Code Example

```
#if defined ( X > Y ) // Noncompliant; expressions not allowed
```

Compliant Solution










```
#if defined X && defined Y && X > Y
```

See

- MISRA C:2004, 19.14 - The defined preprocessor operator shall only be used in one of the two standard forms.
- MISRA C++:2008, 16-1-1 - The defined preprocessor operator shall only be used in one of the two standard forms.

Available In:

sonarcloud | sonarqube Developer Edition

<div>Freed memory should not be used</div> <div> Bug</div>
<div>Memory locations should not be released more than once</div> <div> Bug</div>
<div>Memory access should be explicitly bounded to prevent buffer overflows</div> <div> Bug</div>
<div>Printf-style format strings should not lead to unexpected behavior at runtime</div> <div> Bug</div>
<div>Recursion should not be infinite</div> <div> Bug</div>
<div>Resources should be closed</div> <div> Bug</div>
<div>Hard-coded credentials are security-sensitive</div> <div> Security Hotspot</div>
<div>"goto" should jump to labels declared later in the same function</div> <div> Code Smell</div>
<div>Only standard forms of the "defined" directive should be used</div> <div> Code Smell</div>
<div>Switch labels should not be nested inside non-switch blocks</div> <div> Code Smell</div>