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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 (315) 6 Vulnerability 10 rules

**R** Bug 75

Security Hotspot

⊗ Code (212)

O Quick 13
Fix

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

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

📆 Bug

Stack allocated memory and nonowned memory should not be freed

📆 Bug

Closed resources should not be accessed

📆 Bug

Dynamically allocated memory should be released

📆 Bug

Operands of "&&" and "||" should be primary (C) or postfix (C++) expressions

Analyze your code

based-on-misra

The effect of this rule is to require that operands are appropriately parenthesized. Parentheses are important in this situation both for readability of code and for ensuring that the behavior is as the developer intended.

Where an expression consists of either a sequence of only logical && or a sequence of logical | |, extra parentheses are not required.

## **Noncompliant Code Example**

```
if (x == 0 && ishigh);
                                          // Noncompliant
if (x || y || z);
if (x || y && z);
                                           // Noncompliant
if (x && !y);
                                           // Noncompliant
if (is_odd(y) && x);
if ((x > c1) \&\& (y > c2) \&\& (z > c3));
if ((x > c1) \&\& (y > c2) || (z > c3));
                                          // Noncompliant
```

## **Compliant Solution**

```
if ((x == 0) \&\& ishigh);
if (x || y || z);
if (x || (y && z));
if (x && (!y));
if (is_odd(y) && x);
if ((x > c1) \&\& (y > c2) \&\& (z > c3));
if ((x > c1) && ((y > c2) || (z > c3)));
```

## See

- MISRA C:2004, 12.5 The operands of a logical && or || shall be primary-
- MISRA C++:2008, 5-2-1 Each operand of a logical && or || shall be a postfixexpression.

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Freed memory should not be used  Recursion should not be infinite  Bug  Recursion should not be infinite  Bug  Resources should be closed  Bug  Resources should be closed  Code Smell  Switch labels should not be nested inside non-switch blocks  Code Smell  Memory access should be explicitly bounded to prevent buffer overflows  Replication should not lead to unexpected behavior at runtime  Bug  Recursion should not be infinite  Security Bug  Resources should be closed  Code Smell  Switch labels should not be nested inside non-switch blocks  Code Smell	
Memory locations should not be released more than once	Freed memory should not be used
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