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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

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"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

Values of different "enum" types should not be compared

Analyze your code

Bug Major ?

Just as comparing apples and oranges is seen as a classic folly, comparing values from different enumerations against each other or converting them into one another is nonsensical. True, at root enums are simply named numbers, and it's certainly valid to compare numbers. But an added layer of meaning is created by an enum, one that goes beyond simple numerical values.

Ignoring that extra layer of meaning is at best a trap for maintainers, who are likely to be hopelessly confused by the code. At worst, it is a bug, which will lead to unexpected results.

### Noncompliant Code Example

```
enum apple {BRAEBURN, FUJI, GRANNY_SMITH, RED_DELICIOUS};
enum orange {BLOOD, NAVEL, BITTER, BERGAMOT, MANDARIN};

void makeCider(apple v);

bool fun(apple v1, orange v2) {
    makeCider((apple)v2); // Noncompliant
    return v1 != v2;     // Noncompliant
}
```

Available In:

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<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>