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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

typedefs that indicate size and signedness should be used in place of the basic types

Analyze your code

Code Smell Minor based-on-misra

The basic numeric types char, int, short, long, float, double, and long double should not be used. Instead, specific-length typedefs should be. This rule helps to clarify the size of the storage, but does not guarantee portability because of the asymmetric behavior of integral promotion.

Note that it is still important to understand the integer size of the implementation, and developers should be aware of the actual implementation of the typedefs under these definitions.

Noncompliant Code Example

```
int function(unsigned short a) // Noncompliant
{
    // ...
}
```

Compliant Solution

```
#include <stdint.h>
int32_t function(uint16_t a) // Compliant
{
    // ...
}
```

See

- MISRA C:2004, 6.3 - typedefs that indicate size and signedness should be used in place of the basic types
- MISRA C++:2008, 3-9-2 - typedefs that indicate size and signedness should be used in place of the basic numerical types

See Also

- MISRA C++ 2008 Section 6.5.0 on integral promotion

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>