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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 | Security Hotspot 18 | Code Smell 212 | Quick Fix 13

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 non-owned memory should not be freed
Bug

Closed resources should not be accessed
Bug

Dynamically allocated memory should be released
Bug

"enum" members other than the first one should not be explicitly initialized unless all members are explicitly initialized

Analyze your code

Code Smell | Major | based-on-misra

If an enumerator list is given with no explicit initialization of members, then C/C++ allocates a sequence of integers starting at zero for the first element and increasing by one for each subsequent element.

An explicit initialization of the first element, as permitted by this rule, forces the allocation of integers to start at the given value. When adopting this approach it is essential to ensure that the initialization value used is small enough that no subsequent value in the list will exceed the `int` storage used by enumeration constants.

Explicit initialization of all items in the list, which is also permissible, prevents the mixing of automatic and manual allocation, which is error prone.

However, it is then the responsibility of the developer to ensure that all values are in the required range, and that values are not unintentionally duplicated.

Noncompliant Code Example

```
enum color { red = 3, blue, green, yellow = 5 }; // Noncompli
```

Compliant Solution

```
enum color { red = 3, blue = 4, green = 5, yellow = 5 }; // C
```

See

- MISRA C:2004, 9.3 - In an enumerator list, the "=" construct shall not be used to explicitly initialize members other than the first, unless all items are explicitly initialized.
- MISRA C++:2008, 8-5-3 - In an enumerator list, the = construct shall not be used to explicitly initialize members other than the first, unless all items are explicitly initialized.

Available In:

sonarcloud | sonarqube Developer Edition

Freed memory should not be used

Bug

Memory locations should not be released more than once

Bug

Memory access should be explicitly bounded to prevent buffer overflows

Bug

Printf-style format strings should not lead to unexpected behavior at runtime

Bug

Recursion should not be infinite

Bug

Resources should be closed

Bug

Hard-coded credentials are security-sensitive

Security Hotspot

"goto" should jump to labels declared later in the same function

Code Smell

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

Code Smell

Switch labels should not be nested inside non-switch blocks

Code Smell