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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

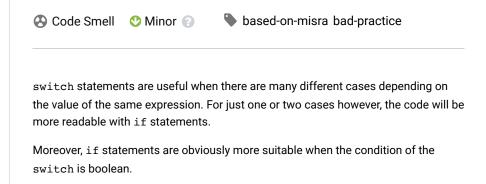Stack allocated memory and non-owned memory should not be freed
🐛 Bug

Closed resources should not be accessed
🐛 Bug

Dynamically allocated memory should be released
🐛 Bug

"switch" statements should have at least 3 "case" clauses

Analyze your code

🔴 Code Smell   🟢 Minor ❓   🏷 based-on-misra bad-practice

`switch` statements are useful when there are many different cases depending on the value of the same expression. For just one or two cases however, the code will be more readable with `if` statements.

Moreover, `if` statements are obviously more suitable when the condition of the `switch` is boolean.

Here are the rules to count the cases:

- `default` is counted as a case.
- If there is no `default` clause, the `case` count is incremented by one (to account for the `else` branch of an equivalent `if`).
- All the cases falling through to `default` are not counted (they would all be the `else` branch of the equivalent `if`).

Noncompliant Code Example

```
switch (variable) {
  case 0:
    doSomething();
    break;
  default:
    doSomethingElse();
    break;
}
```

Compliant Solution

```
if (variable == 0) {
  doSomething();
} else {
  doSomethingElse();
}
```

See

- MISRA C:2012, 16.6 - Every switch statement shall have at least two switch-clauses

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