



Apex

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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

o Security Hotspot

⊗ Code (212)

O Quick 13 Fix

Analyze your code

Tags

Recursion should not be used

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

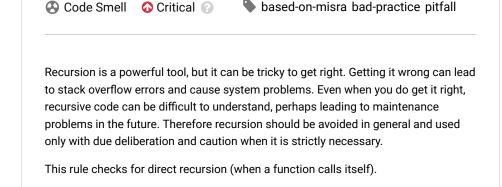
📆 Bug

Closed resources should not be accessed

📆 Bug

Dynamically allocated memory should be released

📆 Bug



## **Noncompliant Code Example**

```
int pow(int num, int exponent) {
  if (exponent > 1) {
   num = num * pow(num, exponent-1); // Noncompliant; direc
  return num;
}
```

## **Compliant Solution**

```
int pow(int num, int exponent) {
  int val = num;
  while (exponent > 0) {
    val *= num;
    --exponent;
 }
  return val;
```

## See

- MISRA C:2004, 16.2 Functions shall not call themselves, either directly or
- MISRA C++:2008, 7-5-4 Functions should not call themselves, either directly or indirectly.
- MISRA C:2012, 17.2 Functions shall not call themselves, either directly or indirectly

Available In:

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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
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	<b>₩</b> Bug
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