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## C static code analysis

Unique rules to find Bugs, Vulnerabilities, Security Hotspots, and Code Smells in your C code

All rules **311**

Vulnerability **13**

Bug **74**

Security Hotspot **18**

Code Smell **206**

Quick Fix **14**

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

XML parsers should not be vulnerable to XXE attacks

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

### Statements should be on separate lines

Analyze your code

Code Smell Major convention

For better readability, do not put more than one statement on a single line.

#### Noncompliant Code Example

```
foo(); bar(); // Noncompliant
```

#### Compliant Solution

```
foo();
bar();
```

#### Exceptions

Control flow statements with a single nested statement are ignored.

```
if (condition) doSomething(); // Compliant
while (condition) doSomething(); // Compliant
```

case or default statements containing a single statement and followed by break are ignored.

```
switch (foo) {
  case 0: doSomething(); break; // Compliant
  default: doSomething(); break; // Compliant
}
```

Statements enclosed in curly braces on the same line are ignored.

```
auto lambda = [](int x) { doSomething(x); return x; }; // Compliant
```

Available In:

sonarlint sonarcloud sonarqube Developer Edition

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

Freed memory should not be used