Secrets
ABAP
Apex
C
C++
CloudFormation
COBOL
C#
CSS
Flex
Go
HTML
Java
JavaScript
Kotlin
Kubernetes
Objective C
PHP
PL/I
PL/SQL
Python
RPG
Ruby
Scala
Swift
Terraform
Text
TypeScript
T-SQL
VB.NET
VB6
XML

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

"memcmp" should only be called with pointers to trivially copyable types with no padding
Bug

Switch statement conditions should not have essentially boolean type

Analyze your code

Code Smell | Minor | misra-c++2008 misra-c2004 misra-c2012

When there is only a single condition to test, you have the option of using either a `switch` statement or an `if-else if-else` statement. For a larger set of potential values, a `switch` can be easier to read, but when the condition being tested is essentially boolean, then an `if/else` statement should be used instead.

Noncompliant Code Example

```
_Bool b = p > 0;
switch (b) { // Noncompliant
...
}
switch (x == 0) { // Noncompliant
...
}
```

Compliant Solution

```
_Bool b = p > 0;
if (b) {
...
} else {
...
}
if (x == 0) {
...
} else {
...
}
```

See

- MISRA C:2004, 15.4 - A switch expression shall not represent a value that is effectively Boolean
- MISRA C++ 2008, 6-4-7 - The condition of a switch statement shall not have bool type
- MISRA C:2012, 16.7 - A switch-expression shall not have essentially Boolean type

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