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C static code analysis

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

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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

Methods should not be empty

Analyze your code

Code Smell | Critical | suspicious

There are several reasons for a method not to have a method body:

- It is an unintentional omission, and should be fixed to prevent an unexpected behavior in production.
- It is not yet, or never will be, supported. In this case an exception should be thrown in languages where that mechanism is available.
- The method is an intentionally-blank override. In this case a nested comment should explain the reason for the blank override.

Noncompliant Code Example

```
void fun(int p1) {
}
```

Compliant Solution

```
void fun(int p1) {
  int a = doSomething(p1);
  int threshold = 42;
  if (a > threshold) {
    // ...
  }
}
```

or

```
void fun(int p1) {
  // Intentionally unimplemented...
}
```

Exceptions

This rule doesn't raise an issue for empty class constructors or destructors. For instance this is the only way to define user-defined default constructors.

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