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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

"#include_next" should not be used

Analyze your code

Code Smell | Minor | lock-in confusing

`#include_next` is a gcc-specific language extension that alters the search path for the specified header file by starting the search from the header file directory *after* the one in which the directive was encountered. It also ignores the distinction between `"file"` and `<file>`. It is typically used when you have two (probably related) header files with the same name, although there is nothing in the extension to enforce or limit the use to same-name files.

Use of this extension can be tricky to get right, and is almost never justified. Instead, you should use an absolute path in the `#include` statement or rename one of the files.

Noncompliant Code Example

```
#include_next "foo.h" // Noncompliant
```

Compliant Solution

```
#include "/usr/local/include/foo.h"
```

Available In:

sonarlint | sonarcloud | sonarqube Developer Edition

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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