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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

Deprecated K&R syntax should not be used for function definition

Analyze your code

Code Smell | Major | obsolete confusing

In 1978, Brian Kernighan and Dennis Ritchie published the first edition of The C Programming Language. This book, known to C programmers as "K&R", served for many years as an informal specification of the language. The version of C that it describes is commonly referred to as K&R C.

The K&R function definition syntax introduced in the book was later deprecated in the ANSI C and ISO C standards. Even though the K&R syntax is still supported in the ISO C11 standard, it's not in ISO C++ standard versions and is not considered readable by most C/C++ developers today.

Noncompliant Code Example

```
int foo(a, b)   // Noncompliant K&R C syntax
  int a;
  char* b;
{
}
```

Compliant Solution

```
int foo(int a, char* b) { // 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