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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

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

🐛 Bug

"abort", "exit", "getenv" and "system" from <stdlib.h> should not be used

Analyze your code

🐛 Bug   ⚠ Critical ?   🏷 cert misra-c++2008 misra-c2004 misra-c2012

`<stdlib.h>`'s `abort`, `exit`, `getenv`, and `system` have implementation-defined behaviors, and should therefore be avoided.

Noncompliant Code Example

```
#include <stdlib.h>

void f( ) {
   exit(0); // Noncompliant
}
```

See

- MISRA C:2004, 20.11 - The library functions abort, exit, getenv and system from library <stdlib.h> shall not be used.
- MISRA C++:2008, 18-0-3 - The library functions abort, exit, getenv and system from library <cstdlib> shall not be used.
- MISRA C:2012, 21.8 - The library functions abort, exit, getenv and system of <stdlib.h> shall not be used

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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