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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

Function pointers should not be converted to any other type

Analyze your code

Bug | Major | based-on-misra

Conversion of a function pointer to a different type of pointer results in undefined behaviour. This means, for example, that a pointer to a function cannot be converted to a pointer to a different type of function.

Noncompliant Code Example

```
int f(int a)
{
  float (*p)(float) = (float (*)(float)) & f; // Noncompliant
}
```

See

- MISRA C:2004, 11.1 - Conversions shall not be performed between a pointer to a function and any type other than an integral type.
- MISRA C++:2008, 5-2-6 - A cast shall not convert a pointer to a function to any other pointer type, including a pointer to function type.
- MISRA C:2012, 11.1 - Conversions shall not be performed between a pointer to a function and any other type

Available In:

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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