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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

"case" ranges should cover multiple values

Analyze your code

Code Smell | Blocker | suspicious gnu

The GNU compiler extension that allows `cases` to be specified with ranges should only be used when a range is actually needed. Use it with the same number on both ends of the range, and you've either made a mistake because an actual range was intended, or you've used the syntax inappropriately in a way that is highly likely to confuse maintainers.

Noncompliant Code Example

```
switch (i) {
  case 0:
    //...
    break;
  case 1 ... 2:
    //...
    break;
  case 3 ... 3: // Noncompliant
    //...
    break;
}
```

Compliant Solution

```
switch (i) {
  case 0:
    //...
    break;
  case 1 ... 2:
    //...
    break;
  case 3:
    //...
    break;
}
```

or

```
switch (i) {
  case 0:
    //...
    break;
  case 1 ... 2:
    //...
    break;
  case 3 ... 5:
    //...
    break;
}
```

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

Available In:

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