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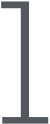












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“However, the language does not lend itself to this. Thus memory safety in C++ would need to be achieved through runtime checks.”





“However, the language does not lend itself to this. Thus memory safety in C++ would need to be achieved through runtime checks.”



```
non-void function does not return a value [-Wreturn-type]
```

safe1.cxx

safety.png



Sean Baxter

## Kinds of memory safety and their solutions

- Lifetime safety - static
  - Borrow checking.
  - A local solution to a non-local problem.
- Type safety (nullptr variety) - static
  - Relocation object model.
- Type safety (union variety) - static
  - Choice types and pattern matching.
- Thread/data race safety - static
  - Send/sync traits.
- Out-of-bounds subscript, divide-by-zero, etc - runtime
  - Panic!

Other unsafe stuff is banned in safe contexts.

924 × 607 pixels 84.6 kB 100%

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