Steps Involved

- Add borrows (similar to references)

- Add relocation (destructive move)

- Add choice type (language variant)

- Add pattern matching

- Add escape hatch (unsafe)

- Add new safe standard library

- Add protocols (type traits)

- Implement sync/send

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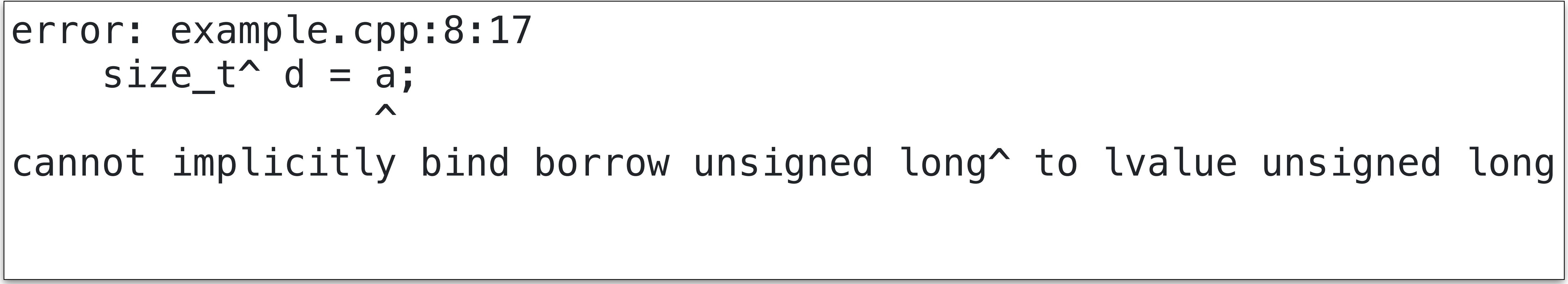
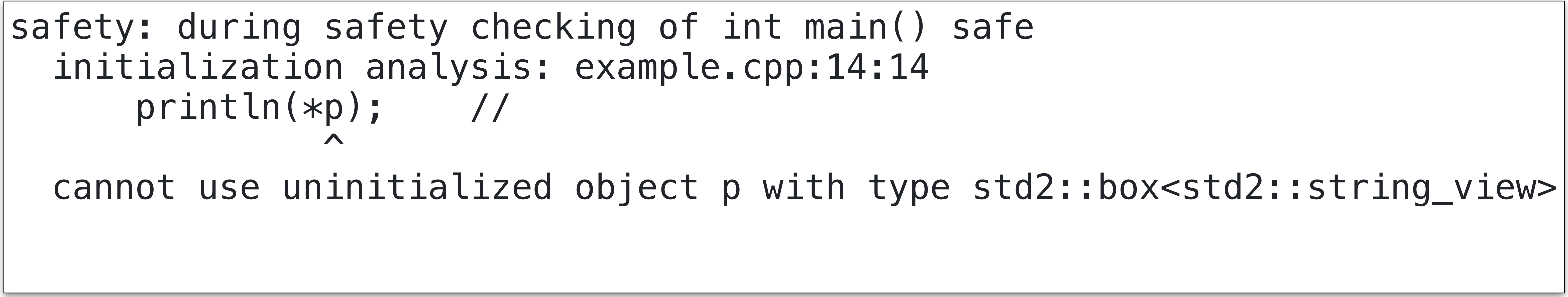
```
#feature on safety

int main() safe
{
    size_t a = 42;
    const size_t^ b = a;
    const size_t^ c = a;
    size_t^ d = a;
}
```



```
error: example.cpp:8:17
    size_t^ d = a;
                ^
cannot implicitly bind borrow unsigned long^ to lvalue unsigned long
```

```
    auto p = std2::box<std2::string_view>("Hello Safety");
    println(*p);    // OK
    auto q = rel p; // Relocate
    println(*p);    //
```



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safety: during safety checking of int main() safe
  initialization analysis: example.cpp:14:14
      println(*p);    //
               ^
  cannot use uninitialized object p with type std2::box<std2::string_view>
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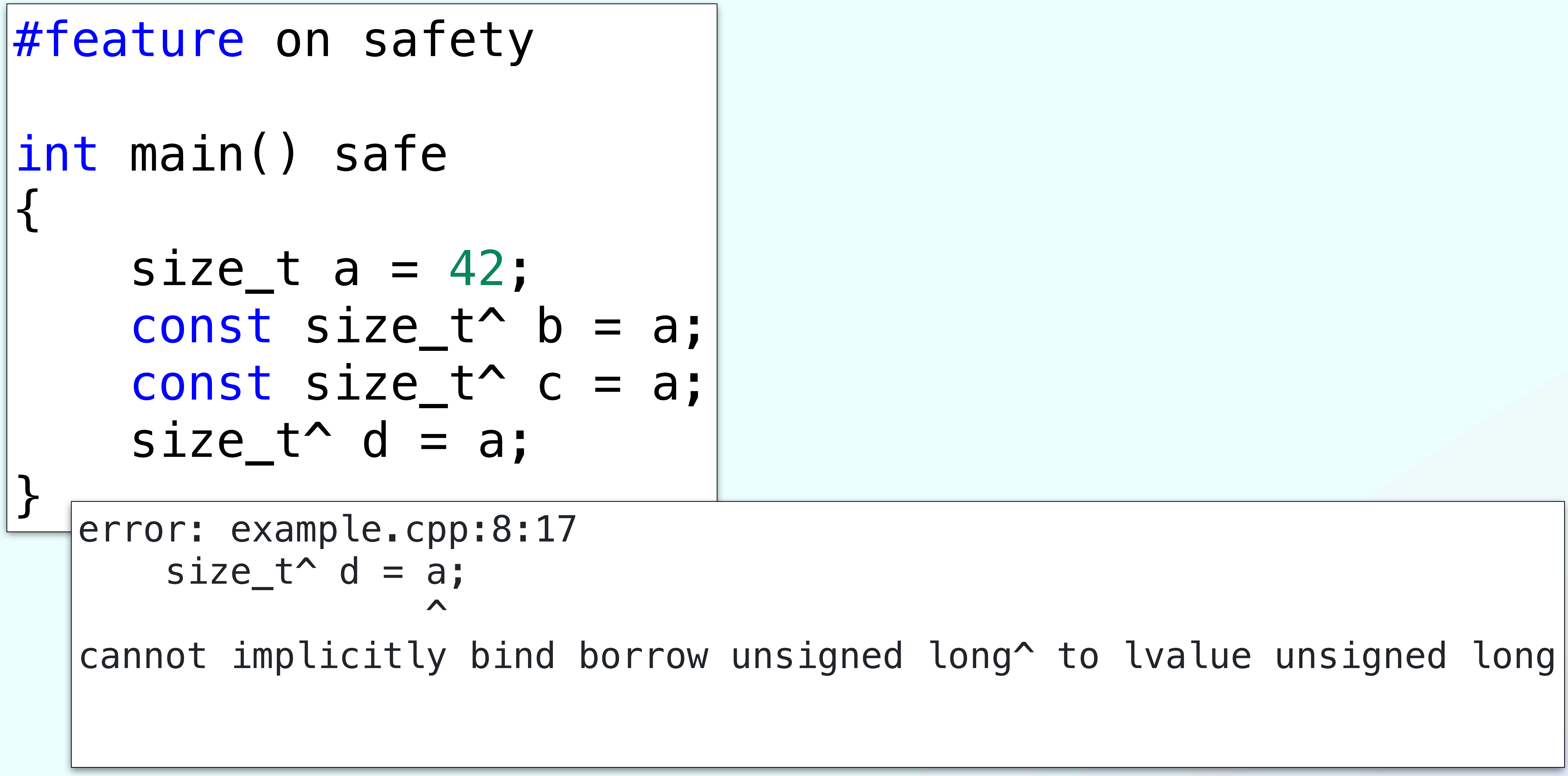

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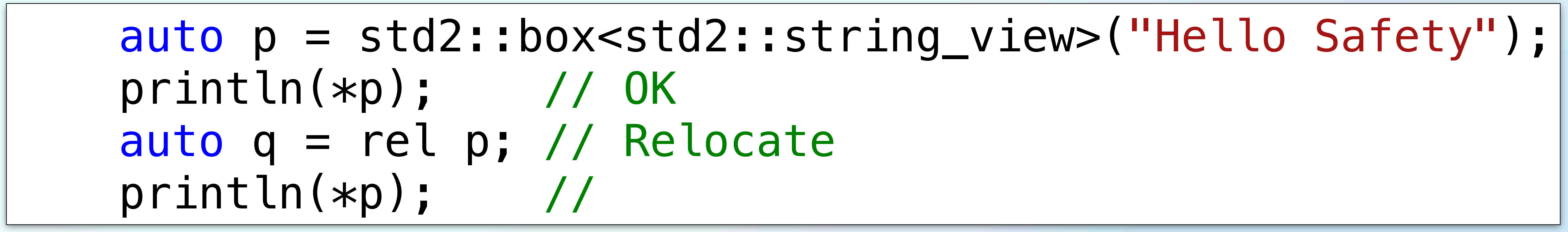

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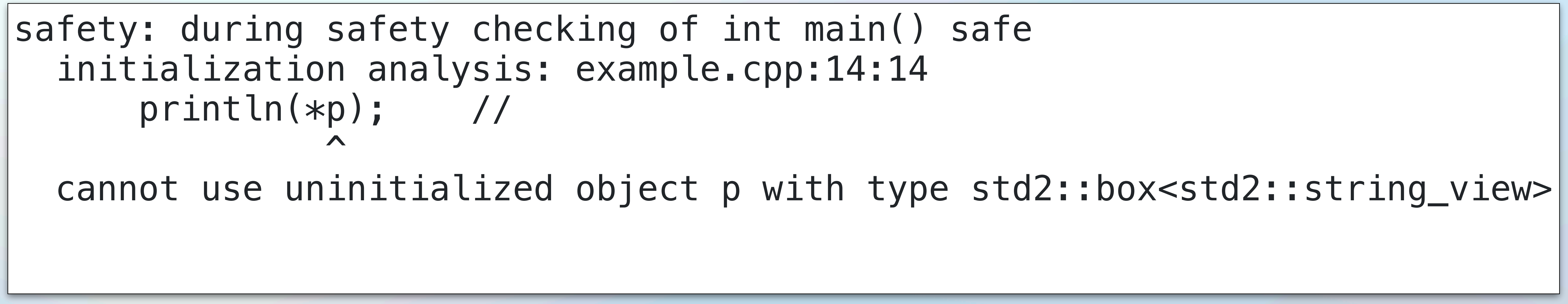

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Easy?

wg21.link/P3390