



Ripgrep messages.rs: Code Companion

Reference code for the messages.rs lecture. Sections correspond to the lecture document.

Section 1: The Problem Being Solved

```
// Without synchronization, concurrent writes interleave:
// Thread 1: eprintln!("rg: file1.txt: permission denied");
// Thread 2: eprintln!("rg: file2.txt: not found");
// Output: "rg: file1.trg:x t:f ilpee2r.mtixsts:i opne rdmenisesdi oenn ideed"

// Even locking per-call doesn't help:
// Thread 1: lock stderr, write "rg: ", unlock
// Thread 2: lock stderr, write "rg: ", unlock  <- interleaves here
// Thread 1: lock stderr, write "file1.txt...", unlock
```

The solution: Hold a single lock across the entire message output.

Section 2: The Global State

```
use std::sync::atomic::{AtomicBool, Ordering};

/// When false, "messages" will not be printed.
static MESSAGES: AtomicBool = AtomicBool::new(false);

/// When false, "messages" related to ignore rules will not be printed.
static IGNORE_MESSAGES: AtomicBool = AtomicBool::new(false);

/// Flipped to true when an error message is printed.
static ERRORED: AtomicBool = AtomicBool::new(false);
```

Flag purposes:

Flag	Default	Controlled By	Purpose
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