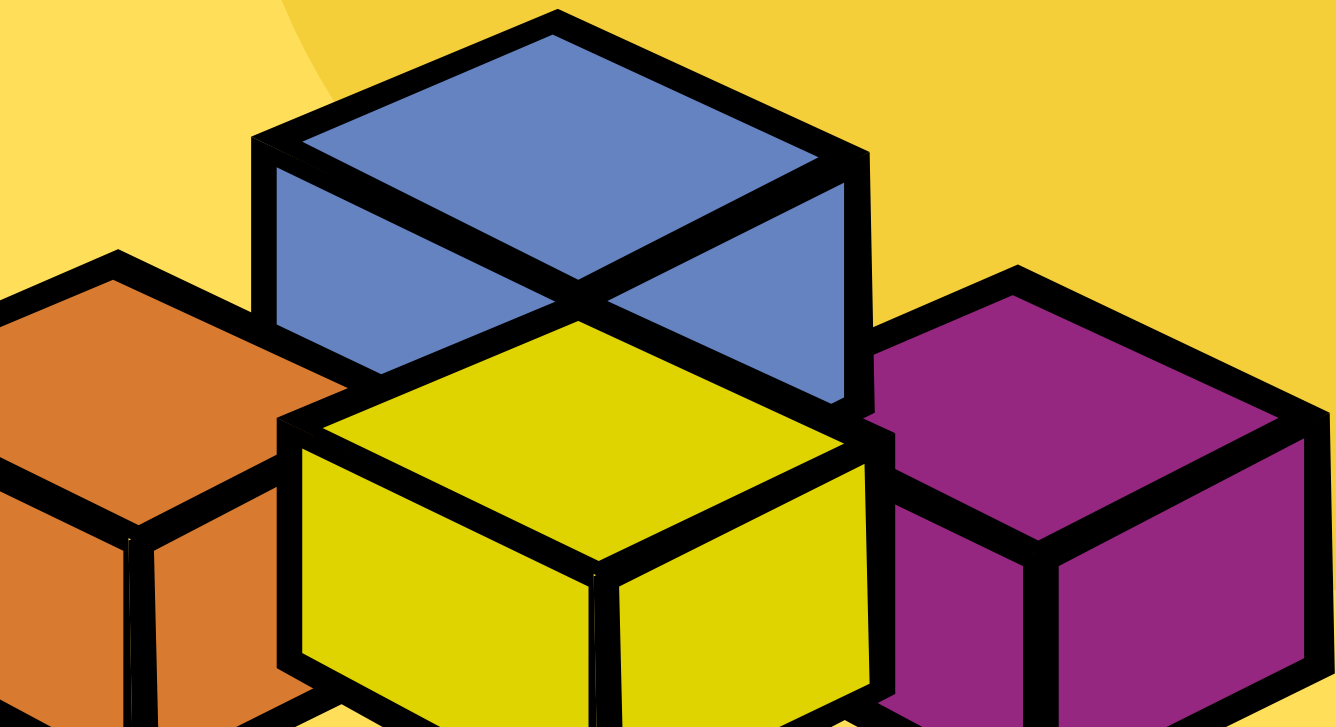


ERROR HANDLING AND TESTING



ERROR HANDLING IDIOMS

- **Returning Errors:** Functions return (result, error) to indicate failures.
- **Wrapping Errors:** Use `fmt.Errorf("%w", err)` or `errors.New("message")` for context.
- **Stack Traces & Unwrapping:** The errors package provides `errors.Unwrap()` for nested errors.



PANIC AND RECOVER

- **When to Use Panic:** For unrecoverable errors (e.g., corrupt state, programming bugs).
- **Recovering Gracefully:** `recover()` captures panics to prevent crashes.
- **Panic vs. Errors:** Errors are preferred for expected failures; panics are for critical issues.

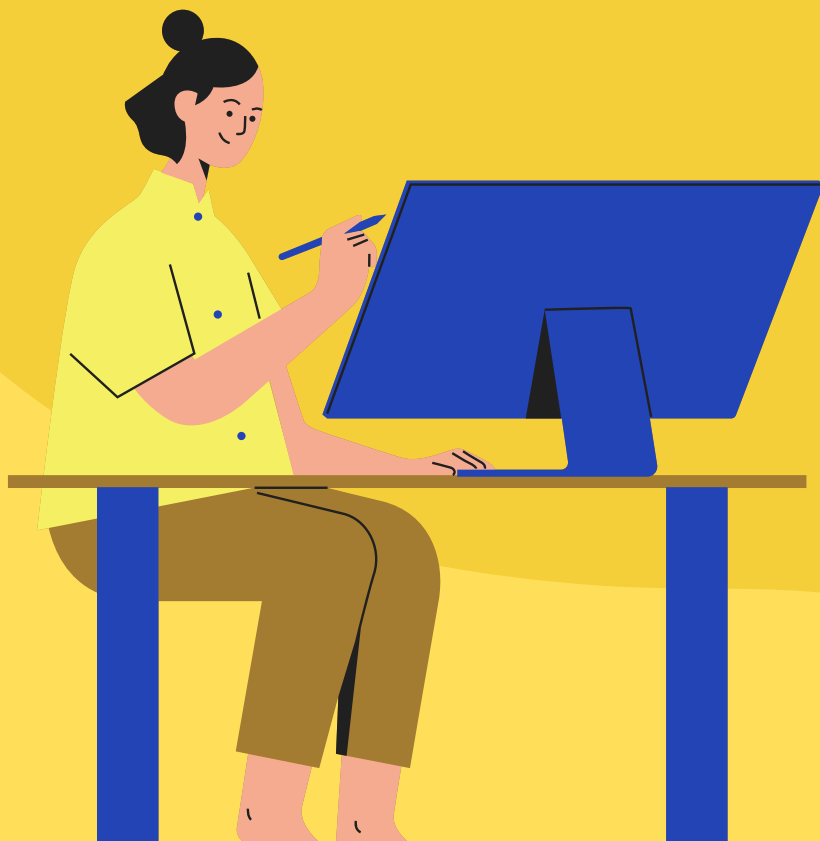
UNIT TESTING WITH TESTING PACKAGE

- **TEST ORGANIZATION: FUNCTIONS MUST BE NAMED TESTXXX(T *TESTING.T).**
- **TABLE-DRIVEN TESTS: IMPROVE READABILITY BY USING STRUCTURED INPUT-OUTPUT CASES.**



BENCHMARKING AND PROFILING

- **Writing Benchmarks:** Use `BenchmarkXxx(b *testing.B)` to measure performance.
- **Profiling with pprof:** Analyze CPU & memory usage for optimization.



THANK YOU

