**Golang Challenge Test:**

**Problem:** Build a URL shortening service

**Description:** you are tasked with building a URL shortening service similar to [bit.ly](http://bit.ly/) or TinyURL. The service should take a long URL as input and generate a short URL that redirects to the original long URL when accessed.

**Requirements:**

1. The service should expose an HTTP API that accepts a long URL and returns a shortened URL.
2. The shortened URL should be unique and should not collide with existing shortened URLs.
3. When a user accesses the shortened URL, they should be redirected to the original long URL.
4. The service should handle concurrent requests efficiently and without data corruption.
5. Implement basic error handling and appropriate response codes for various scenarios, such as invalid URLs, collisions, etc.
6. Provide a simple web interface to demonstrate the functionality of the service (optional).

You are free to use any third-party libraries or frameworks to accomplish this task, but try to keep the use of external dependencies to a minimum when possible.

**Deliverables:**

1. Source code for the URL shortening service written in Golang.
2. Clear instructions on how to run and test the service.

This challenge problem is meant to test your understanding of HTTP APIs, concurrency handling, data storage, and error handling in Golang. It will also evaluate your ability to design and implement a complete web service from scratch.