Language Development Checklist

☐ 1. Design the Language

   ☐ a. Define the Language Goals
   ☐ b. Design the Syntax
   ☐ c. Plan the Intermediate Language (IL)

☐ 2. Implement the Lexer

   ☐ a. Tokenization
   ☐ b. Handle Errors

☐ 3. Implement the Parser

   ☐ a. Parse Tokens into an Abstract Syntax Tree (AST)
   ☐ b. Validate Syntax

☐ 4. Design the Intermediate Language (IL)

- [ ] a. Define IL Instructions
- [ ] b. Optimize the IL

☐ 5. Implement the IL Generator

- [ ] a. Translate AST to IL
- [ ] b. Handle Scopes and Variables

☐ 6. Build the Interpreter

- [ ] a. Execute the IL
- [ ] b. Handle Runtime Errors

☐ 7. Add Standard Library

- [ ] a. Implement Built-in Functions
- [ ] b. Optimize Library Functions

☐ 8. Develop Tooling

- [ ] a. Create a REPL (Read-Eval-Print Loop)
- [ ] b. Build a Debugger
- [ ] c. Package Manager

☐ 9. Optimize the Language

☐ a. Performance Tuning
☐ b. Memory Management

☐ 10. Document the Language

☐ a. Write Language Specification
☐ b. Create Tutorials and Examples

☐ 11. Build the Community

☐ a. Open Source the Project
☐ b. Engage with Users

☐ 12. Iterate and Improve

☐ a. Add New Features
☐ b. Fix Bugs