

6. Dolphin - Phase 3

Task 1: Implement lexical analysis using OCamllex

We implemented the Dolphin lexer using OCamllex, defining patterns to recognize language tokens and handle errors with accurate location tracking.

Task 2: Implement the parser using Menhir parser generator

Using Menhir, we developed a parser that converts the tokenized input into an abstract syntax tree (AST) based on Dolphin's grammar rules.

Task 3: Update semantic analysis

We updated the semantic analyzer to include error messages that specify the location of issues in the source code, enhancing error reporting.

Task 4: Testing and consolidation

We integrated the lexer, parser, and semantic analyzer into the `compile_prog` function, ensuring compilation. Additionally, we added ten new tests to check that the lexer and parser correctly handle both valid code and various error scenarios.