

Project 1: Utkarsh Sharma and Yash Bhalla

GitHub: https://github.com/yashbhalla/Delphi-Pascal_Interpreter/tree/dev

This project implements a subset of Delphi features as an extension of Pascal using ANTLR4 and Java. It's designed to demonstrate object-oriented programming concepts in Pascal.

Features

- Classes and Objects
- Constructors and Destructors
- Encapsulation
- Basic input/output functionality

Prerequisites

- Java JDK 8 or higher
- ANTLR 4.9 or higher
- Visual Studio Code
 - Java Extension Pack
 - ANTLR4 grammar syntax support

Test Files

- test1.pas: Demonstrates basic class and object instantiation
- test2.pas: Shows encapsulation and input/output functionality
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To Run

```
java -jar lib/antlr-4.9.3-complete.jar -o src/generated -visitor -listener src/delphi.g4
javac -cp "lib/antlr-4.9.3-complete.jar:src:src/generated" src/DelphiInterpreter.java -d src
java -cp "lib/antlr-4.9.3-complete.jar:src:src/generated" DelphiInterpreter
test/test1.pas
```

What Works

During testing, we encountered an issue where the parser mistakenly interpreted the .pas files as units instead of programs, resulting in a "mismatched input 'program' expecting 'CLASS'" error. We tried modifying the grammar to understand what went wrong but as per our understanding, the Pascal files should start with 'program' and not 'class', hence we were unable to find the root cause of this error.

Error thrown: line 1:0 mismatched input 'program' expecting 'CLASS'

```
(base) yashbhalla@Yashs-MacBook-Pro Delphi-Pascal_Interpreter % java -jar lib/antlr-4.9.3-complete.jar -o src/generated -visitor -listener src/delphi.g4
javac -cp "lib/antlr-4.9.3-complete.jar:src:src/generated" src/DelphiInterpreter.java -d src
java -cp "lib/antlr-4.9.3-complete.jar:src:src/generated" DelphiInterpreter test/test1.pas
line 1:0 mismatched input 'program' expecting 'CLASS'
(base) yashbhalla@Yashs-MacBook-Pro Delphi-Pascal_Interpreter %
```