https://github.com/cs-ubbcluj-ro/lab-work-computer-science-2024-dragosgavrus1/tree/c18a193fa15c3b16586f15c41a40a262734b2ca1/1-Mini-Language-And-Scanner/Lab%203

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This module contains a Scanner class that reads and tokenizes a source file, classifying tokens as identifiers, constants, operators, reserved words, or separators. The Scanner also stores tokens in symbol tables and generates a Program Internal Form (PIF).

Class: Scanner

- **Purpose**: Scans a source file for tokens, categorizing each token and storing it in the relevant symbol table or the PIF.
- **Methods**:
  - __init__(filename, token_file): Initializes the Scanner with a source filename and a token_file for token definitions. Creates symbol tables for constants and identifiers and initializes dictionaries for reserved words, operators, and separators.
  - scan_file(): Reads the source file line by line, identifying tokens using regex and categorizing them as constants, identifiers, operators, reserved words, or separators. Populates the PIF and outputs symbol tables to files.
  - get_tokens(): Parses the token_file and categorizes tokens under reserved words, operators, and separators based on specific sections in the file.
  - is_identifier(string): Checks if a given string qualifies as an identifier by verifying format rules.
  - is_constant(string): Validates if a string is a constant (integer) according to its structure and characters.