

LEXER ANALYZER

Question # 03: Working of project with output.

Data Flow Explanation:

1. Input Data:

Text to Analyze: This is the string passed to the Result method for lexical analysis. For instance, consider "if (x == 5) { return x; }" as the input text.

2. loadTransitionTable Function:

Input: Path to the transition rules file (e.g., "matrix.txt").

Output: Populates the rules list, which represents the transition rules for the lexical analyzer.

3. Result Function:

Initialization:

Loads transition rules using loadTransitionTable.

Initializes variables (txtIndex, iState, cTemp, cChar, sToken, flag).

Lexical Analysis Loop:

Character Processing:

Iteration through Characters: Analyzes each character in the input text sequentially.

Character Classification:

Determines the type of character (letter, digit, symbol) using getNextState.

Constructs tokens and identifies their types.

Tokenization and Output:

Appending Results: Builds the output string based on identified tokens.

Filtering Out Comments: Ignores comments in the input text.

4. getNextState Function:

Input: Current state (iState) and the current character (cChar).

Output: Determines the next state based on the input character and the rules defined in the rules list.

5. isKeyword Function:

Input: A token (e.g., an identifier).

Output: Checks if the given token is a keyword from the predefined list.

