**CSA1443-COMPILER DESIGN FOR INTRAPROCEDURAL ANALYSIS**

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**PROGRAM 4**

**Design a lexical Analyzer to validate operators to recognize the operators +,-,\*,/ using regular arithmetic operators using C**

**Aim:**

The aim of this program is to design a **lexical analyzer** in C that recognizes and validates the basic arithmetic operators: +, -, \*, /. The program will read an input string, process it character by character, and print out the recognized arithmetic operators.

Code: #include <stdio.h>

// Function to handle operators

void handleOperator(char ch) {

printf("Operator: %c\n", ch);

}

// Main function to perform lexical analysis

void lexicalAnalyzer(char \*input) {

char ch;

int i = 0;

// Process each character in the input string

while ((ch = input[i]) != '\0') {

// Check for valid operators

if (ch == '+' || ch == '-' || ch == '\*' || ch == '/') {

handleOperator(ch); // Print the operator if it's valid

}

i++; // Move to the next character

}

}

int main() {

char input[100];

// Get input from the user

printf("Enter an arithmetic expression: ");

fgets(input, sizeof(input), stdin);

printf("Lexical Analysis Result:\n");

lexicalAnalyzer(input); // Call the lexical analyzer function

return 0;

}

**Output:**

