 

EX 3: Design a lexical Analyzer to validate operators to recognize the

operators +,-,\*,/ using regular Arithmetic operators .

Aim:

To design a lexical analyzer that validates and recognizes arithmetic

operators +, -, \*, and /.

Algorithm:

1. Start.

2. Read the input line from the user.

3. Define a list of valid arithmetic operators: ['+', '-', '\*', '/'].

4. Check if any of the defined operators are present in the input:

oIf found, print "Arithmetic operator detected."

oIf not found, print "No arithmetic operator detected."

5. End.

CODE

#include <stdio.h>   
#include <stdlib.h>   
#include <string.h>   
#include <ctype.h>

#define MAX\_LEN 100

void lexicalAnalyzer(const char \*input) {   
 for (int i = 0; i < strlen(input); i++) {   
 if (isspace(input[i])) {   
 continue;   
 }   
 if (input[i] == '+' || input[i] == '-' || input[i] == '\*' || input[i] == '/') { printf("Operator found: %c\n", input[i]);   
 } else {   
 printf("Invalid character: %c\n", input[i]);   
 }   
 }   
}

int main() {

 

|  |  |  |
| --- | --- | --- |
|  | char input[MAX\_LEN]; |  |

printf("Enter an expression: ");   
 fgets(input, MAX\_LEN, stdin);   
 lexicalAnalyzer(input);   
 return 0;   
}

OUTPUT:



 