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

#include <stdio.h>

#include <ctype.h>

#include <string.h>

void identifyToken(char \*token);

int main() {

char code[] = "int a = b + c - d \* e / f; // Perform arithmetic operations";

char \*token = strtok(code, " ;");

while (token != NULL) {

identifyToken(token);

token = strtok(NULL, " ;");

}

return 0;

}

void identifyToken(char \*token) {

if (isalpha(token[0]) || token[0] == '\_') {

printf("%s is an identifier\n", token);

} else if (isdigit(token[0])) {

int isConstant = 1;

for (int i = 1; i < strlen(token); i++) {

if (!isdigit(token[i]) && token[i] != '.') {

isConstant = 0;

break;

}

}

if (isConstant) {

printf("%s is a constant\n", token);

}

} else if (strchr("+-\*/", token[0]) && token[1] == '\0') {

printf("%s is an operator\n", token);

} else {

printf("%s is not recognized\n", token);

}

}

