6.Develop a lexical Analyzer to test whether a given identifier is valid or not using C?

**Program:**

#include <stdio.h>

#include <ctype.h>

#include <string.h>

#define MAX\_LEN 100

int isValidIdentifier(char str[]) {

// Check if the string is empty

if (str[0] == '\0') {

return 0;

}

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

return 0;

}

for (int i = 1; str[i] != '\0'; i++) {

if (!(isalnum(str[i]) || str[i] == '\_')) {

return 0; // Invalid character found

}

}

const char \*keywords[] = {

"int", "char", "float", "double", "if", "else", "for", "while", "return", "void"

};

for (int i = 0; i < sizeof(keywords) / sizeof(keywords[0]); i++) {

if (strcmp(str, keywords[i]) == 0) {

return 0; // Identifier is a keyword

}

}

return 1;

}

int main() {

char identifier[MAX\_LEN];

printf("Enter an identifier to check: ");

scanf("%s", identifier);

if (isValidIdentifier(identifier)) {

printf("'%s' is a valid identifier.\n", identifier);

} else {

printf("'%s' is not a valid identifier.\n", identifier);

}

return 0;

}

