Lab Program - 6

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

**Code:**

#include<stdio.h>

#include<string.h>

#include<ctype.h>

// List of C keywords

const char\* keywords[]={"auto","break","case","char","const","continue",

"default","do","double","else","enum","extern","float","for","goto",

"if","int","long","register","return","short","signed","sizeof",

"static","struct","switch","typedef","union","unsigned","void",

"volatile","while"};

// Function to check if the given string is a keyword

int isKeyword(char \*str){

int i;

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

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

return 1;

}

return 0;

}

// Function to check if the given identifier is valid

int isValidIdentifier(char \*str){

int i,len=strlen(str);

// Check if the first character is valid

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

return 0;

// Check the remaining characters

for(i=1;i<len;i++){

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

return 0;

}

// Check if it's a keyword

if(isKeyword(str))

return 0;

return 1;

}

int main(){

char identifier[100];

printf("Enter an identifier: ");

scanf("%s",identifier);

if(isValidIdentifier(identifier))

printf("Valid Identifier\n");

else

printf("Invalid Identifier\n");

return 0;

}

**Screenshot for I/O:**

