

# EXPERIMENT-3

## AIM:

Design a lexical Analyzer for given language should ignore the redundant spaces, tabs and new lines and ignore comments using C

## PROGRAM:

The screenshot shows the Dev-C++ IDE interface. The main window displays the code for EXP\_1.cpp. The code implements a lexical analyzer to identify keywords, identifiers, operators, and constants from a user input statement. It includes functions for keyword matching and character classification. The compilation results window at the bottom shows no errors or warnings, indicating a successful build.

```
1 #include <stdio.h>
2 #include <string.h>
3 #include <ctype.h>
4 int isKeyword(char str[]) {
5     char keywords[10][10] = {"int", "float", "if", "else", "while", "for", "return", "char", "double", "main"};
6     for(int i = 0; i < 10; i++) {
7         if(strcmp(str, keywords[i]) == 0)
8             return 1;
9     }
10 }
11 int main() {
12     char input[100], buffer[20];
13     int j = 0;
14     printf("Enter a program statement: ");
15     fgets(input, sizeof(input), stdin);
16     for(int i = 0; i < strlen(input); i++) {
17         if(isalnum(input[i])) {
18             buffer[j++] = input[i];
19         }
20     }
21     if(j != 0){
22         buffer[j] = '\0';
23         if(isKeyword(buffer))
24             printf("%s ? Keyword\n", buffer);
25         else if(isdigit(buffer[0]))
26             printf("%s ? Constant\n", buffer);
27         else
28             printf("%s ? Identifier\n", buffer);
29     }
30 }
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

- Errors: 0  
- Warnings: 0  
- Output Filename: C:\Users\Haritha\OneDrive\Documents\EXP\_1.exe  
- Output Size: 130.4765625 Kib

## OUTPUT:

The screenshot shows a terminal window with the command prompt C:\Users\Haritha\OneDrive\Documents>. The user enters a C-style program statement: "int a=5;". The program processes this input and outputs the tokens: "int" is identified as a keyword, "a" as an identifier, "=" as an operator, and "5" as a constant. Finally, it prints a standard exit message.

```
Enter a program statement: int a=5;
int ? Keyword
a ? Identifier
= ? Operator
5 ? Constant

-----
Process exited after 45.37 seconds with return value 0
Press any key to continue . . .
```