Practical No. 3

Aim: To demonstrate whether input identifier is number or character with LEX Tool.

```
%{
#include<stdio.h>
%}
%%
if |
else |
printf {printf("\n%s is a Keyword", yytext);}
[0-9]+ {printf("\n%s is a Number", yytext);}
[a-zA-Z]+ {printf("\n%s is a Word", yytext);}
.|\n {ECHO;}
%%

int main()
{
printf("\n Enter the String:");
yylex();
}
int yywrap()
{
return 1;
}
```

```
computer@computer-ThinkCentre-neo-50t-Gen-3: ~/Desktop
computer@computer-ThinkCentre-neo-... × computer@computer-ThinkCentre-neo-...
computer@computer-ThinkCentre-neo-50t-Gen-3:~$ cd Desktop
computer@computer-ThinkCentre-neo-50t-Gen-3:~/Desktop$ lex pract3.l
pract3.l:22: EOF encountered inside an action
computer@computer-ThinkCentre-neo-50t-Gen-3:~/Desktop$ flex pract3.l
pract3.l:22: EOF encountered inside an action
\computer@computer-ThinkCentre-neo-50t-Gen-3:~/Desktop$ flex pract3.l
computer@computer-ThinkCentre-neo-50t-Gen-3:~/Desktop$ gcc lex.yy.c
computer@computer-ThinkCentre-neo-50t-Gen-3:~/Desktop$ ./a.out

 Enter the String:157 Sahil L

157 is a Number
Sahil is a Word
L is a Word
```

Date :

Practical No. 3

Aim : To demonstrate whether input identifier is number or character with LEX tool.

Theory :

Lex is a computer program that generates lexical analyzers and was written by Mike Lesk and Eric Schmidt. Lex reads an input stream specifying the lexical analyzer and outputs source code implementing the lex in the C programming language.

Algorithm :

a. Definition section has one variable which can be accessed inside yylex() and main().
b. Rule section has two rules, first rule matches with number (0-9), second rule matches with any character (a-z)(A-Z).
c. Code section prints the given input is number or characters.

Computing Environment :

Platform : Ubuntu.
Tool : FLEX.

Program :

```
%{
#include <stdio.h>
%}
%%
if |
else |
printf { printf ("\n %s is a keyword", yytext); }
[0-9]+ { printf ("\n %s is a Number", yytext); }
[a-zA-Z]+ { printf ("\n %s is a word", yytext); }
```

Conclusion:

Thus, the LEX program to identify whether the input identifier is number or character is implemented.

Date :

```
.\n {ECHO;}
%%
int main()
{
  printf("\n Enter the String: ");
  yylex();
}
int yywrap()
{
  return 1;
}
```

Output:

Enter the String : 157 Sahil L
157 is a number
Sahil is a word
L is a word.

Conclusion:

Thus the lex program to identify whether the input identifier is number or character is implemented.

Viva voce Questions:

① What is the rule to define members in LEX?

→ To ~~determin~~ define number in LEX [0-9] is used.

② What is the rule to define characters in LEX?

→ To define characters ie. small and capital [a-z] and [A-Z] are used.

Date :

(3) What is the rule to define no number and no characters.

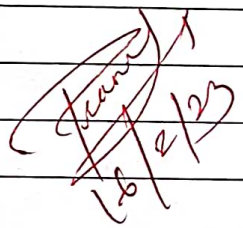
→ ^[0-9], ^[a-z], ^[A-z]

(4) What is difference bet" yylex() and scanf()

→ yylex() is used to accept input and call parser, but scanf() for only accepting data.

(5) How is the instruction in first section used?

→ It is copied as it is into lex.yy.c.



Page No.