Compiler Design Lab

Paper Code: PCCCS691

Work Book

Department of Computer Science & Engineering

B. Tech

3rd year 6th Semester

Assignment No. 1

Program Name: Write a C program to simulate a Lexical Analyser to Validate Operators.

Objective: Understanding the validation of operators.

Resource: Online Compiler To simulate the program and test the output result.

Program Code:

```c
#include
#include
void main()
{
char s[5];
clrscr();
printf("\n Enter any operator:");
gets(s);
switch(s[0])
{
case'>': if(s[1]=='=')
printf("\n Greater than or equal");
else
printf("\n Greater than");
break;
case'<': if(s[1]=='=')
printf("\n Less than or equal");
else
printf("\nLess than");
break;
case'=': if(s[1]=='=')
printf("\nEqual to");
else
printf("\nAssignment");
break;
case'!': if(s[1]=='=')
printf("\nNot Equal");
else
printf("\n Bit Not");
break;
case'&': if(s[1]=='&')
printf("\nLogical AND");
else
printf("\n Bitwise AND");
break;
case'|': if(s[1]=='|')
```

```c
printf("\nLogical OR");
else
printf("\nBitwise OR");
break;
case'+': printf("\n Addition");
break;
case'-': printf("\nSubstraction");
break;
case'*': printf("\nMultiplication");
break;
case'/': printf("\nDivision");
break;
case'%': printf("Modulus");
break;
default: printf("\n Not a operator");
}
getch();
}
```

Input & Output:

```
Input
Enter any operator: *
Output
Multiplication
```

Program Name: Write a C Program to identify whether a program is a comment or not

Objective: Understanding if a text comment or not.

Resource: Online Compiler To simulate the program and test the output result

Program Code:
```c
#include<stdio.h>
#include<string.h>

int main()
{
    char str[100];
    int i=2,a=0;
    printf("Enter the String: \n");
    scanf("%[^\n]s", &str);
```

```c
    printf("\nOutput:\n");

    if(str[0]=='/'){
        if(str[1]=='/')
            printf("It is a Single Line comment\n");
        else if(str[1]=='*'){
            for(i=2;i<=100;i++){
                if(str[i]=='*' && str[i+1]=='/'){
                    printf("It is a Multi-Line comment\n");
                    a=1;
                    break;
                }
                else
                    continue;
            }
            if(a==0){
                printf("It is not a comment \n");
            }
        }
        else
            printf("It is not a comment\n");
    }
    else
        printf("It is not a comment\n");
}
```

Output: