

National Institute Of Technology, Surathkal Manglore

Department Of Information Technology

Compiler Design(IT250)

Lab Assignment 1

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Lex program For The Following Questions

1)Eggs

```
%{  
    #include<stdio.h>  
    int a[2];  
    int x=0;  
    int temp;  
}%  
%%  
[0-9]+ {a[x]=atoi(yytext);  
        x++;  
        if(x>=2){  
            if(a[0]>a[1]){  
                printf("%d\n",a[1]);  
                printf("Thank You\n");  
                return 0;  
            }  
            else{  
                printf("%d\n",a[1]);  
                printf("Sorry\n");  
                return 0;  
            }  
        }  
}  
[\n\t ' ']{ };  
.* {  
    scanf("%d",&temp);  
    printf("%d\n",temp);  
    printf("Invalid\n");  
    exit(0);
```

```

}
%%
int yywrap(){ }
int main()
{
    yylex();
    return 0;
}

```

```

student@HP-EliteDesk-800-G8-33: ~/Desktop
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex eggs.l
student@HP-EliteDesk-800-G8-33:~/Desktop$ cc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
200
150
150
Thank You
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex eggs.l
student@HP-EliteDesk-800-G8-33:~/Desktop$ cc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
350
350
350
Sorry
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex eggs.l
student@HP-EliteDesk-800-G8-33:~/Desktop$ cc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
50.05
25
25
Invalid
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex eggs.l
student@HP-EliteDesk-800-G8-33:~/Desktop$ cc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
10000
10.0
Invalid

```

2)Strings

```

%{
#include <stdio.h>
#include <ctype.h>
%}

```

```

%%
[a-z] { printf("%c", toupper(yytext[0])); }
[A-Z] { printf("%c", tolower(yytext[0])); }
.*[0-9].* { printf("-l\n"); }
. { printf("%s", yytext); }
\n { printf("\n"); }
%%

```

```

int main() {
    yylex();
    return 0;
}

```

}

```
student@HP-EliteDesk-800-G8-33: ~/Desktop
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex string.l
student@HP-EliteDesk-800-G8-33:~/Desktop$ cc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
NiTk
nItK
ABcde70
-1

10253
-1

HELLO world
hello WORLD
□
```

3)Minimum

```
%{
#include<stdio.h>
int a[50];
int num=0;
int i=0;
int n;
%}
%%
[0-9]+ {a[i]=atoi(yytext);
if(((num==0)||(a[i]<num))&&(i!=0)){
num=a[i];
}
i++;
if(i>a[0]){
for(i=0;i<a[0];i++){
if((a[i]<=0)||(a[i]>=100000))
break;
}
if(i==a[0]){
printf("\nMinimum value is=%d\n",num);
}
else{
```

```

        printf("Invalid\n");
    }
}
}
[\\n\\t ' ' ] {};
.* {
    printf("Invalid\n");
    exit(0);
}
%%
int yywrap(){}
int main()
{
    printf("Enter the value of n=");
    yylex();
    return 0;
}

```

```

student@HP-EliteDesk-800-G8-33: ~/Desktop
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex string.l
student@HP-EliteDesk-800-G8-33:~/Desktop$ cc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
NiTk
niTk
ABcde70
-1

10253
-1

HELLO world
hello WORLD

```

```

student@HP-EliteDesk-800-G8-33: ~/Desktop
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex labassignment2.l
student@HP-EliteDesk-800-G8-33:~/Desktop$ cc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
Enter the value of n=5
6
2
9
4
10

Minimum value is=2

```

```
student@HP-EliteDesk-800-G8-33: ~/Desktop
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex labassignment2.1
student@HP-EliteDesk-800-G8-33:~/Desktop$ cc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
Enter the value of n=25.5
Invalid
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex labassignment2.1
student@HP-EliteDesk-800-G8-33:~/Desktop$ cc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
Enter the value of n=0
Minimum value is=0
█
```

```
student@HP-EliteDesk-800-G8-33: ~/Desktop
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex labassignment2.1
student@HP-EliteDesk-800-G8-33:~/Desktop$ cc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
Enter the value of n=25.5
Invalid
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex labassignment2.1
student@HP-EliteDesk-800-G8-33:~/Desktop$ cc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
Enter the value of n=0
Minimum value is=0
█
```