



SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

Symbiosis International (Deemed University)

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Assignment No. 06

Subject:	Compiler Construction Lab
Name of Student	Onkar Mendhapurkar
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Branch	CSE B2, Batch (2022-26)
Academic Year & Semester	2022-26
Date of Performance	04/09/2025
Title of Assignment:	Lex Program
Practice Questions	<p>1. Lex program to count lines ending with "com".</p> <p>2. Lex program to count URLs ending with "org".</p> <p>Practice question below</p> <p>3. Lex program to count URLs ending with "edu".</p>
Source Code	<p>1.</p> <pre>%{ #include <stdio.h> int com_count = 0; }% %% .*com\n { com_count++; } // match entire line ending with com</pre>

```
.*\n    ; // ignore other lines
```

```
%%
```

```
int yywrap() { return 1; }
```

```
int main() {  
    yylex();  
    printf("Number of lines ending with 'com': %d\n", com_count);  
    return 0;  
}
```

2.

```
%{  
#include <stdio.h>  
int org_count = 0;  
%}
```

```
%%
```

```
(https?:\W)[a-zA-Z0-9./_]*\.org([\t\n]|\V) { org_count++; }
```

```
.\n    ; // ignore everything else
```

```
%%
```

```
int yywrap() { return 1; }
```

```
int main() {  
    yylex();  
    printf("Number of URLs ending with 'org': %d\n", org_count);  
    return 0;  
}
```

3.

```
%{  
#include <stdio.h>  
int edu_count = 0;  
%}
```

```
%%
```

```
(https?:\W)[a-zA-Z0-9./_]*\.edu([\t\n]|\V) { edu_count++; }
```

	<pre> .\n ; // ignore everything else %% int yywrap() { return 1; } int main() { yylex(); printf("Number of URLs ending with 'edu': %d\n", edu_count); return 0; } </pre>
Output Screenshot	<p>1.</p>  <pre> battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ cd Assign6 battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ nano count_com.l battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ cat count_com.l %{ #include <stdio.h> int com_count = 0; %} %% .*com\n { com_count++; } // match entire line ending with com .*\n ; // ignore other lines %% int yywrap() { return 1; } int main() { yylex(); printf("Number of lines ending with 'com': %d\n", com_count); return 0; } battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ nano input.txt battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ lex count_com.l battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ cc lex.yy.c -o count_com battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$./count_com < input.txt Number of lines ending with 'com': 2 battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ </pre> <p>2.</p>  <pre> battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ nano count_org.l battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ cat count_org.l %{ #include <stdio.h> int org_count = 0; %} %% (https?:\\/\\/)[a-zA-Z0-9._-]*\\.org([\\t\\n] \\/) { org_count++; } .\n ; // ignore everything else %% int yywrap() { return 1; } int main() { yylex(); printf("Number of URLs ending with 'org': %d\n", org_count); return 0; } battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ cat input.txt www.google.com https://wikipedia.org http://example.org https://mit.edu randomtext.com http://harvard.edu battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ lex count_org.l battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ cc lex.yy.c -o count_org battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$./count_org < input.txt Number of URLs ending with 'org': 2 </pre> <p>3.</p>

	<pre> battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ nano count_edu.l battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ cat count_edu.l %{ #include <stdio.h> int edu_count = 0; }% %% (https?:\\\/)[a-zA-Z0-9._-]*\\.edu([\\t\\n] \\\/) { edu_count++; } .\\n ; // ignore everything else %% int yywrap() { return 1; } int main() { yylex(); printf("Number of URLs ending with 'edu': %d\\n", edu_count); return 0; } battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ cat input.txt www.google.com https://wikipedia.org http://example.org https://mit.edu randomtext.com http://harvard.edu battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ lex count_edu.l battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ cc lex.yy.c -o count_edu battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$./count_edu < input.txt Number of URLs ending with 'edu': 2 battlemachine@DESKTOP-FU1975B:/mnt/c/Users/DELL/CCL/Assign6\$ </pre>
Conclusion	<p>These LEX programs show how simple rules can automate number system conversions. They highlight the efficiency of lexical analysis in scanning, recognizing patterns, and transforming input seamlessly.</p>