

Collin Gros
01/24/2020

CS-370 LAB 1

I updated the given lex routine to count the number of numbers from given input. In the definition section, I declared an integer called "count". Later, in the rules section, I incremented count whenever 1 or more 0-9 characters were found. Lastly, in the C section, I added a print statement to print the total number of numbers counted.

MODIFIED LEX FILE

/*!

collin gros
01/24/2020

Shaun Cooper, January 2015:

This lex routine uses a counting array to match alphabeticstrings and make a frequency count.

The real item to notice is that yywrap() is called at EOF and then is run to do what we need to do. yywrap() returns true when we have a successful end to the program. We may want to return false (0) if we want to lexing process to fail

collin gros, 01/24/2020:

this lex routine was updated to count the number of numbers from given input.

(definition section)
an integer variable, "count" is declared

(rules section)
count is incremented if a token contained a string of integers.

(C section (HA!))
added a print statement to print the total number of numbers counted

*/

```

%{
    int lgths[100];
    int count = 0;
}%

%%
[a-zA-Z]+    { lgths[yyleng]++; }
[0-9]+       { count++; }
.            |
\n           ;
%%

int yywrap()
{
    int i;
    printf("Length No. words\n");
    for (i=1; i<100; i++) {
        if (lgths[i] > 0) {
            printf("%5d%10d\n",i,lgths[i]);
        }
    }

    printf("numbers: %d\n", count);

    return 1;
}

int main()
{
    yylex();
}

```

MAKEFILE

```

# collin gros
# 01/24/2020
#
# makefile for lab1

```

```

all: lab1

```

```

# compile lex-generated code after running lex
lab1: lex.yy.c

```

```
gcc -o run lex.yy.c
```

```
# run lex on lex code
```

```
lex.yy.c: wordlengthlab1.l  
lex wordlengthlab1.l
```

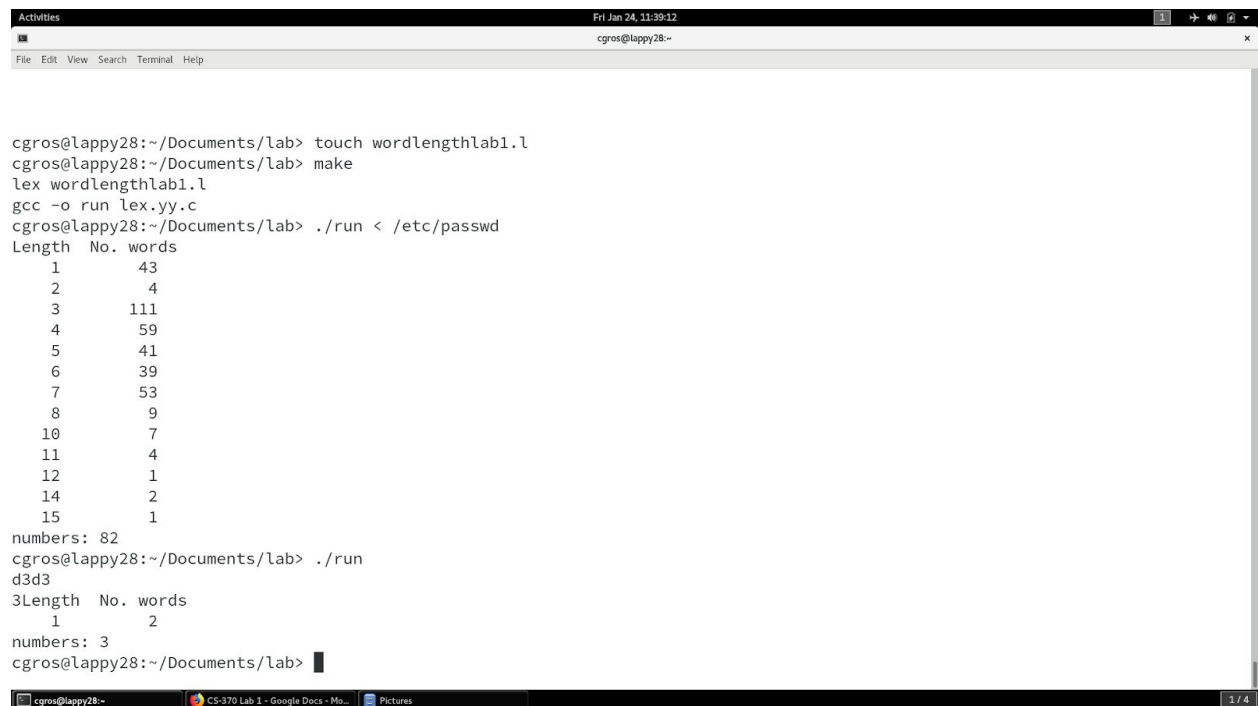
```
# get rid of all the generated crap
```

```
clean:
```

```
rm run
```

```
rm lex.*
```

OUTPUT



```
Activities Fri Jan 24, 11:39:12 cgres@lappy28:~  
File Edit View Search Terminal Help  
cgres@lappy28:~/Documents/lab> touch wordlengthlab1.l  
cgres@lappy28:~/Documents/lab> make  
lex wordlengthlab1.l  
gcc -o run lex.yy.c  
cgres@lappy28:~/Documents/lab> ./run < /etc/passwd  
Length No. words  
1 43  
2 4  
3 111  
4 59  
5 41  
6 39  
7 53  
8 9  
10 7  
11 4  
12 1  
14 2  
15 1  
numbers: 82  
cgres@lappy28:~/Documents/lab> ./run  
d3d3  
3Length No. words  
1 2  
numbers: 3  
cgres@lappy28:~/Documents/lab>
```