

Exp. No. 17

Write a C program for implementing a Lexical Analyzer to Scan and Count the number of characters, words, and lines in a file.

Program:

```
#include <stdio.h>

int main()
{
    char str[100]; //input string with size 100

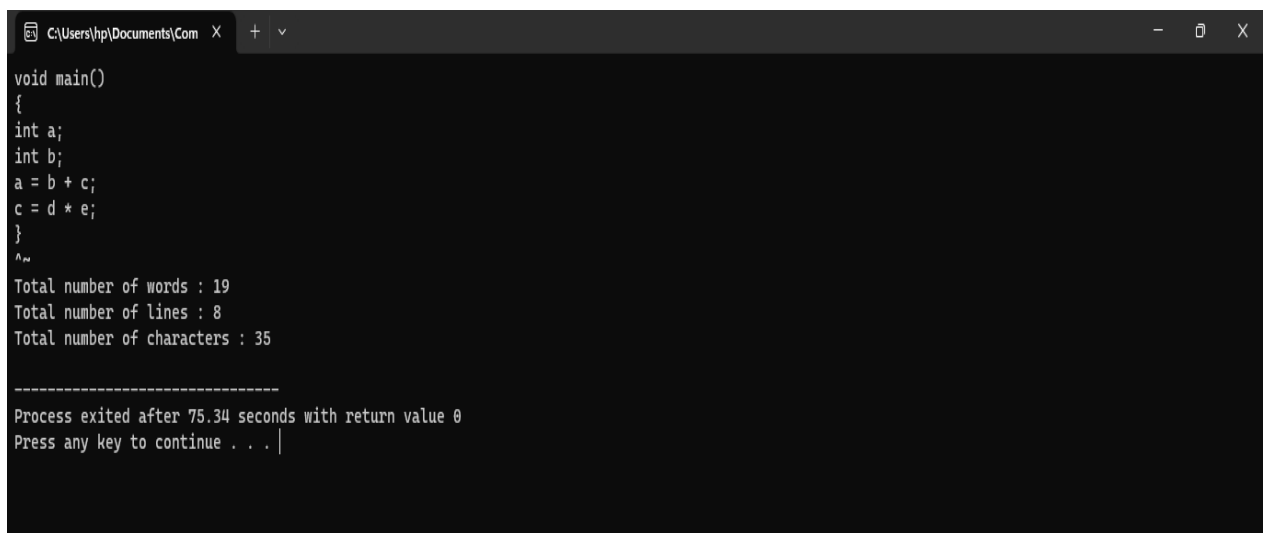
    int words=0, newline=0, characters=0; // counter variables

    scanf("%[^\n]", &str); //scanf formatting

    for(int i=0; str[i]!='\0'; i++)
    {
        if(str[i] == ' ')
        {
            words++;
        }
        else if(str[i] == '\n')
        {
            newline++;
            words++; //since with every next line new words start. corner case 1
        }
        else if(str[i] != ' ' && str[i] != '\n'){
            characters++;
        }
    }
    if(characters > 0) //Corner case 2,3.
    {
        words++;
        newline++;
    }
    printf("Total number of words : %d\n", words);
    printf("Total number of lines : %d\n", newline);
}
```

```
    printf("Total number of characters : %d\n",characters);  
    return 0;  
}
```

OUTPUT:



```
C:\Users\hp\Documents\Com X + v  
void main()  
{  
int a;  
int b;  
a = b + c;  
c = d * e;  
}  
^~  
Total number of words : 19  
Total number of lines : 8  
Total number of characters : 35  
  
-----  
Process exited after 75.34 seconds with return value 0  
Press any key to continue . . . |
```