

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

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
#define MAX_SIZE 1000
```

```
int main() {
```

```
    char text[MAX_SIZE];
```

```
    int characters = 0, words = 0, lines = 0;
```

```
    int inWord = 0;
```

```
    printf("Enter text (press Ctrl + D to end input):\n");
```

```
    while (fgets(text, MAX_SIZE, stdin) != NULL) {
```

```
        for (int i = 0; text[i] != '\0'; i++) {
```

```
            characters++;
```

```
            if (text[i] == '\n')
```

```
                lines++;
```

```
            if (text[i] == ' ' || text[i] == '\t' || text[i] == '\n')
```

```
                inWord = 0;
```

```
            else if (inWord == 0) {
```

```
                inWord = 1;
```

```
                words++;
```

```
            }
```

```
        }
```

```
    }
```

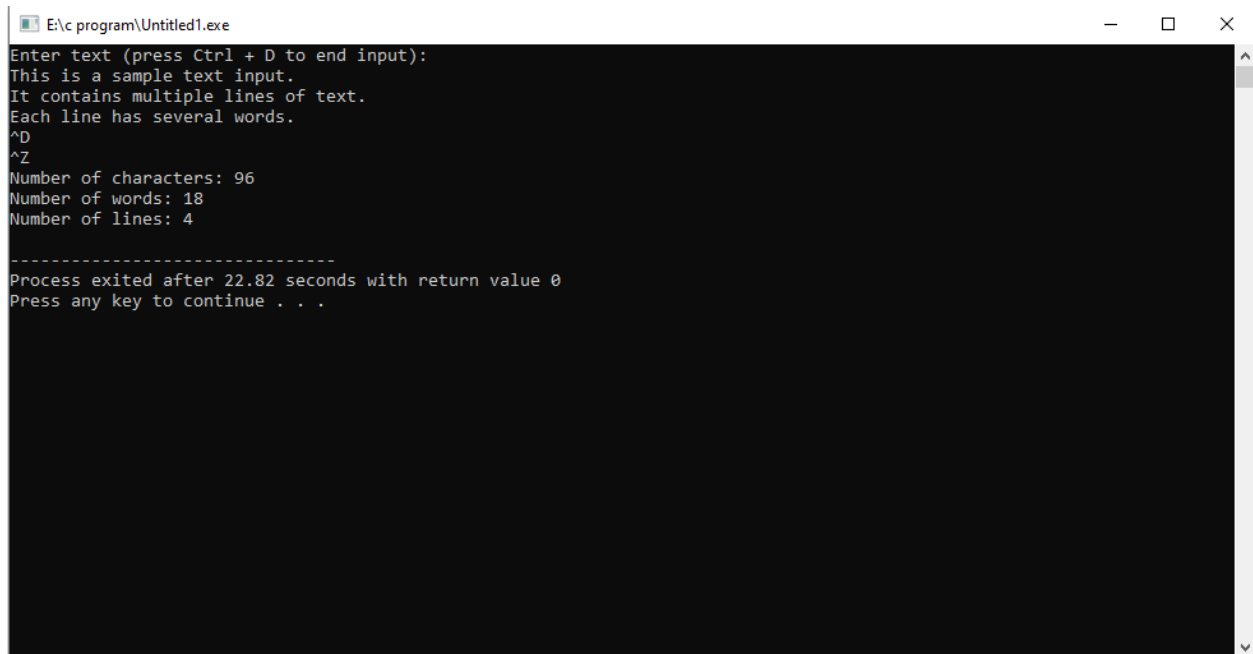
```
printf("Number of characters: %d\n", characters);

printf("Number of words: %d\n", words);

printf("Number of lines: %d\n", lines);


return 0;

}
```



```
E:\c program\Untitled1.exe
Enter text (press Ctrl + D to end input):
This is a sample text input.
It contains multiple lines of text.
Each line has several words.
^D
^Z
Number of characters: 96
Number of words: 18
Number of lines: 4

-----
Process exited after 22.82 seconds with return value 0
Press any key to continue . . .
```