Exp. No. 5

Design a lexical Analyzer to find the number of whitespaces and newline characters using C.

Program:

```
#include <stdio.h>
int main()
{
   char str[100];//input string with size 100

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

   scanf("%[^~]",&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: