# Question 1.

1. Readability Analyzer (Coleman–Liau Index)  
   This program calculates the reading grade level of a text using the Coleman–Liau index. It counts the number of letters, words, and sentences and then computes the grade level.  
   C Code:

#include <stdio.h>  
#include <string.h>  
#include <ctype.h>  
#include <math.h>  
  
int main() {  
 char text[1000];  
 int letters = 0, words = 1, sentences = 0;  
  
 printf("Text: ");  
 fgets(text, sizeof(text), stdin);  
  
 for (int i = 0; text[i] != '\0'; i++) {  
 if (isalpha(text[i])) {  
 letters++;  
 } else if (isspace(text[i])) {  
 words++;  
 } else if (text[i] == '.' || text[i] == '!' || text[i] == '?') {  
 sentences++;  
 }  
 }  
  
 float L = (float)letters / words \* 100;  
 float S = (float)sentences / words \* 100;  
 float index = 0.0588 \* L - 0.296 \* S - 15.8;  
 int grade = round(index);  
  
 if (grade < 1)  
 printf("Before Grade 1\n");  
 else if (grade >= 16)  
 printf("Grade 16+\n");  
 else  
 printf("Grade %d\n", grade);  
  
 return 0;  
}