

```
1  #include <cs50.h>
2  #include <ctype.h>
3  #include <math.h>
4  #include <stdio.h>
5  #include <string.h>
6
7  int main(void)
8  {
9      // Prompt user for text
10     string text = get_string("Text: ");
11
12     // Calculate number of letters
13     float l = 0;
14     for (int i = 0, n = strlen(text); i < n; i++)
15     {
16         if ((text[i] >= 65 && text[i] <= 90) || (text[i] >= 97 && text[i] <= 122))
17         {
18             l++;
19         }
20     }
21
22     // Calculate number of words
23     float w = 1;
24     for (int i = 0, n = strlen(text); i < n; i++)
25     {
26         if (text[i] == 32)
27         {
28             w++;
29         }
30     }
31
32     // Calculate number of sentences
33     float s = 0;
34     for (int i = 0, n = strlen(text); i < n; i++)
35     {
36         if (text[i] == 46 || text[i] == 33 || text[i] == 63)
37         {
38             s++;
39         }
40     }
41
42     // Compute the Coleman-Liau index
```

```
43     float L = 100 * (l / w);
44     float S = 100 * (s / w);
45     int index = round(0.0588 * L - 0.296 * S - 15.8);
46
47     // Return Grade Level
48     if (index >= 16)
49     {
50         printf("Grade 16+\n");
51     }
52     else if (index < 1)
53     {
54         printf("Before Grade 1\n");
55     }
56     else
57     {
58         printf("Grade %i\n", index);
59     }
60 }
```

```
1  #include <cs50.h>
2  #include <ctype.h>
3  #include <math.h>
4  #include <stdio.h>
5  #include <string.h>
6
7  int count_letters(string text);
8  int count_words(string text);
9  int count_sentences(string text);
10
11 int main(void)
12 {
13     // Prompt user for some text
14     string text = get_string("Text: ");
15
16     // Count the number of letter, words, and sentences in the text
17     int letters = count_letters(text);
18     int words = count_words(text);
19     int sentences = count_sentences(text);
20
21     // Compute the Coleman-Liau index
22     float L = (float) letters / words * 100;
23     float S = (float) sentences / words * 100;
24     int index = round((float) 0.0588 * L - 0.296 * S - 15.8);
25
26     // Print the grade level
27     if (index >= 16)
28     {
29         printf("Grade 16+\n");
30     }
31     else if (index < 1)
32     {
33         printf("Before Grade 1\n");
34     }
35     else
36     {
37         printf("Grade %i\n", index);
38     }
39 }
40
41 int count_letters(string text)
42 {
```

```
43     // Return the number of letters in the text
44     int letters = 0;
45
46     for (int i = 0, len = strlen(text); i < len; i++)
47     {
48         if (isalpha(text[i]))
49         {
50             letters += 1;
51         }
52     }
53     return letters;
54 }
55
56 int count_words(string text)
57 {
58     // return the number of words in the text
59     int words = 0;
60
61     for (int i = 0, len = strlen(text); i < len; i++)
62     {
63         if (isspace(text[i]))
64         {
65             words += 1;
66         }
67     }
68     return words + 1;
69 }
70
71 int count_sentences(string text)
72 {
73     // Return the number of words in the text
74     int sentences = 0;
75
76     for (int i = 0, len = strlen(text); i < len; i++)
77     {
78         if (text[i] == '.' || text[i] == '?' || text[i] == '!')
79         {
80             sentences += 1;
81         }
82     }
83     return sentences;
84 }
```