

Problem 2.c

```
1
2 /**
3  * String character and word count
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5  */
6
7 #include <stdio.h>
8 #include <string.h>
9
10 /**
11  * Calculates character and word count for a given string
12  * @str: The string to check
13  * @char_cnt: Pointer to variable to store character count
14  * @word_cnt: Pointer to variable to store word count
15  */
16 void str_stats(const char *str, size_t *char_cnt, size_t *word_cnt) {
17     size_t len = strlen(str);
18     size_t i, wc;
19
20     wc = len == 0 ? 0 : str[0] == 32 ? 0 : 1;
21     for (i = 1; i < len; i++)
22         if (str[i] != 32 && str[i-1] == 32)
23             wc++;
24
25     *char_cnt = len; *word_cnt = wc;
26 }
27
28 #define BUF_SZ 2048
29
30 /** Driver function */
31 int main(int argc, const char *argv[]) {
32     char str[BUF_SZ];
33     size_t cc, wc;
34
35     printf("Enter a sentence:\n");
36     fgets(str, BUF_SZ, stdin);
37
38     // Remove newline if present
39     size_t len = strlen(str);
40     if (str[len-1] == '\n') str[len-1] = '\0';
41
42     // Get stats
43     str_stats(str, &cc, &wc);
44     printf("\nCharacter count: %lu\nWord count: %lu\n", cc, wc);
45
46     return 0;
47 }
48
```