

Assignment 1

Deadline 11:59PM Oct 5

For this assignment, we want to write a function that formats/justifies a string in a group of two. The signature of the function should look like:

```
void formatAndPrintParagraph(FILE *fptr, int lineLength);
```

Example 1) paragraph = "Hi everyone. This is the 2nd assignment. Please make sure you start early as this is going to take some time!"

lineLength = 25

Output should be:

```
Hi everyone. This is the
2nd assignment. Please
make sure you start early
as this is going to take
some time!
```

Example 2) paragraph = "Hi everyone. This is the 2nd assignment. Please make sure you start early as this is going to take some time!"

lineLength = 40

Output should be:

```
Hi everyone. This is the 2nd assignment.
Please make sure you start early as this
is going to take some time!
```

So, what is this output? Basically, we want to break the paragraph into lines of equal length (parameter lineLength). We also want to make sure the number of spaces we add in between words are balanced. For example, if your line length is 30 and on your first line you have four words with sizes: 7, 4, 8 and 3 you need to add 3 spaces between first word and second word, three spaces between second word and third word and finally two spaces between third word and fourth word. Your line's length would add up to:
 $7 \text{ (first word)} + 3 \text{ spaces} + 4 \text{ (second word)} + 3 \text{ spaces} + 8 \text{ (third word)} + 2 \text{ spaces} + 3 \text{ (fourth word)} = 30$.

A line break is considered a line break, so when a new line is created, justify all words right before the line break.

There will be a corner case testing for this assignment. Make sure to pay attention to the lecture in order to understand what corner cases are and how they need to be handled for this assignment.

Grading

This lab and all future labs will be marked out of 6. For full marks this week, you must:

- (1 point) Correctly use git/GitHub and the repository following the lab handout
- (4 points) Generate a correct solution to the problem(s) in this lab
- (2 point) Handling corner cases and gracefully exit
- (1 point) Correctly format outputs
- (1 point) Comment your code

Submission Files and Expected Outputs

- Skeleton file **assignment1.c** is provided in Learning Hub
- You must deliver only one .c file named: **assignment1.c**
- Do **NOT** modify *main*, *formatAndPrintParagraph* function signatures
- The file that you send should be a .c file (not .txt, not .cpp or any other type).
- Github classroom link is posted on Learning Hub.
- **./a.out [filename] [# characters in a line]** will be used to run the program
- Files to submit
 - assignment1.c (do not capitalize)
 - AXXXX_AXXXX.txt (empty file, but with your A number as well as your partner's)
 - Only push these two files to Git