

**Objectives:**

Use if statements, loops, formatting output, and strings.

Write a C++ program that counts the number of words and sentences in some text. The text will be terminated by the three symbols “@@@”. A word is defined as a string terminated by a *white space*. A sentence will be terminated by a period, exclamation mark, or a question mark.

Your program must output the number of words, sentences, and the average number of words per sentence rounded to one decimal place. Your program must print an error message for the average if the user enters no words or no sentences (words without a period, exclamation mark, or question mark).

**Hints:**

Each character in a string is stored at a certain position within the string starting with position 0. For example, consider the string "John", the letter 'J' is stored at position 0, 'o' at position 1, etc.

We can find the length of the string by calling the function `length` from within the string.

```
string name = "John";  
int length = name.length();
```

This will assign 4 to the variable `length`.

To find the first character:

```
char first = name.at(0);
```

To find the second character:

```
char second = name.at(1);    //etc.
```

Can you figure out how to find the last character in a string?

**Your program must output something similar to the following:**

```
Enter a paragraph...
```

```
@@@
```

```
Word count: 0
```

```
Sentence count: 0
```

```
You did not enter any text!
```

```
Enter a paragraph...
```

```
ttt
```

```
@@@
```

```
Word count: 1
```

```
Sentence count: 0
```

```
You did not enter any sentences!
```

```
Enter a paragraph...
```

```
What's your name? My name is John. I live in Athens Ohio. I like  
football, GO BOBCATS!
```

```
I also like to read and write computer programs. @@@
```

```
Word count: 26
```

```
Sentence count: 5
```

```
Average words per sentence: 5.2
```

### Grading:

Programs that contain syntax errors will earn zero points.

Programs that use global variables other than constants will earn zero points.

Your grade will be determined using the following criteria:

- Correctness (20 points)
  - All output results are displayed as requested and have accurate values. (15 points)
  - Clarity and format of the output and error messages (5 points)
- Style & Documentation (5 points). See <https://github.com/nasseef/cs2400/blob/master/docs/coding-style.md>

### Submission:

Submit a link to your repository on Blackboard.