

## Problem Set 4 Exercise #17: Count Words

**Reference:** Lecture 11 notes

**Learning objectives:** Characters and Strings; Algorithm design

**Estimated completion time:** 50 minutes

### Problem statement:

Write a non-OO program **PS4\_Ex17\_CountWords.java** to read an English sentence and count the number of words in the sentence.

Your program should contain the following static method:

```
int wordCount(String sentence)
```

that takes in a sentence and counts the number of words in it.

At least one space is needed to separate words. For example, "**J.K. Rowling**" contains two words, but "**J. K. Rowling**" contains three. "**A&W fast-food**" contains two words.

A word must comprise at least one English letter. For example, "**Jack & Jill potato chips**" contains four words, not five, because "&" is not considered an English word. However, "**Jack 'n Jill potato chips**" contains five words, because "'n" is considered a word as it contains the letter 'n'. Likewise, "**3 + 5 is 8**" contains only one word.

### Sample run #1:

```
Enter a sentence: Hello there, welcome to CS1010J!
Word count = 5
```

### Sample run #2:

```
Enter a sentence: WHAT IS 1234 * 5678 ???
Word count = 2
```

### Sample run #3:

```
Enter a sentence: Exercises r ... good4u.
Word count = 3
```

### Sample run #4:

```
Enter a sentence: J. K. Rowling wrote "Harry Potter".
Word count = 6
```

#### Sample run #5:

```
Enter a sentence: I H.A.T.E *** school ***  
Word count = 3
```

#### Useful tips:

Explore the `isLetter()` method of the Java `Character` class. Probably the only String method you need to use in this exercise is `charAt()`.