

CS-207: Programming II  
Spring 2016  
Northeastern Illinois University  
Homework #6: Due 03/03/16 at 9:00 a.m.  
Strings

**Problem #1**

Create a class named `StringParser` that has the following:

- A public static method named `findIntegerDivisors` that takes a `String` and two `char` variables as parameters (in that order) and does not return anything.
- The method should find the integer value that is located in between the two characters.
- The method should then print out all of the numbers between 1 and the integer (inclusive) that divide evenly into the integer on the same line separated by spaces.
- If no number appears in between the specified `char` parameters, print out "No integer found."
- You can assume that only valid integers or nothing will appear in between the specified characters.
- In addition, you can assume that the second `char` parameter will always follow the first `char` parameter. However, you **cannot** assume that the parameters will be different from each other.
- You may only use one loop (for finding the divisors) and one conditional (if) statement in your code.
- Download the `StringParserTest` from the `NeededFiles.zip` file and compile and run it.
- If you created your class and method correctly, you will see the output below.
- Place your `StringParser` file into the `Homework6` folder to be submitted to D2L.

```
String is: rugtsbckgus!32*  
1 2 4 8 16 32  
String is: disdkfjs<873>sfjsldkfiwx  
1 3 9 97 291 873  
String is: rujfbgl&%fkslga  
No integer found.  
String is: rusbdi#1038#jjdkusu  
1 2 3 6 173 346 519 1038
```

**Problem #2**

Create a class named `OnlyDigits` that has the following:

- A public static method named `hasOnlyDigits` that takes a `String` as a parameter and returns a `boolean`.
- The method should determine if the `String` is a valid integer (negative or positive) and return true if the `String` is a valid integer and false if it is not.

- You may not use any loops or conditionals (ifs) to solve this problem.
- Download the `OnlyDigitsTest` from the `NeededFiles.zip` file and compile and run it.
- If you created your class and method correctly, you will see the output below.
- Place your `OnlyDigits` file into the `Homework6` folder to be submitted to D2L.

```
194t is a valid integer? false
ab33103c is a valid integer? false
3348yue239 is a valid integer? false
-46231111 is a valid integer? true
631 is a valid integer? true
```

### Problem #3

Create a class named `Vowels` that has the following:

- A public static method named `numberOfVowels` that takes a `String` as a parameter and returns an `int`.
- The method should determine the number of vowels (uppercase or lowercase) in the `String` and return this value.
- You may only use a single loop (no nesting). You may not use any conditionals (ifs) to solve this problem. You may not use any `String` method more than twice (using a method in a loop counts as using it once).
- Download the `VowelsTest` from the `NeededFiles.zip` file and compile and run it.
- If you created your class and method correctly, you will see the output below.
- Place your `Vowels` file into the `Homework6` folder to be submitted to D2L.

```
banana has 3 vowels
Veritas. Virtus. Libertas. has 8 vowels
Veni, vidi, vici has 6 vowels
```

### Problem #4

Create a class named `EndsWith` that has the following:

- A public static method named `endsWithIng` that takes a `String` as a parameter and does not return anything.
- The method should print out the words in the `String` that contain the sequential letters "ing" (regardless of case) and print them out.
- Your output should match the sample usage below.
- You are only allowed to have at most one for-loop and two conditional (if) statements.
- You may **not** use the following `String` methods: `contains`, `toUpperCase`, or `toLowerCase`

- Download the `EndsWithTest` from the `NeededFiles.zip` file and compile and run it.
- If you created your class and method correctly, you will see the output below.
- Place your `EndsWith` file into the `Homework6` folder to be submitted to D2L.

```
Words with ing:
Singing dancing

Words with ing:
Ingeniously interesting

Words with ing:
fringe

There are no words with ing.
```

### **A note on cheating/plagiarism:**

A plagiarism detector is used on all submitted code (across all sections) for homework assignments. If the plagiarism detector determines that 25% or more of your code for a particular assignment is plagiarized, you will receive a zero (i.e. an F) for that homework assignment, regardless of whether you cheated from someone or vice-versa. If you plagiarize half or more of the total homework assignments, you will receive a zero for the entire homework percentage.

### **Submitting your assignment to D2L**

1. Make sure your name and assignment number are in the `.java` file(s) (as comments) and text file.
2. Place all your files in a folder and compress (i.e. `.zip`) the folder. Submit the `.zip` file to the Homework #4 folder on D2L. You should submit only one file - the `.zip` file. Do **NOT** upload multiple files.
3. Turn your homework in to D2L by the specified deadline (no late homework will be accepted - see syllabus for policies)