

# CPW 143 Fall 2017, Programming Assignment 9

## Recursion

### Purpose:

The purpose of this assignment is to gain experience using recursion as an algorithmic technique.

### Description:

Using the provided test code, `RecursiveMethodProject.java`, construct the following methods. Note that your implementations must be recursive.

1. Write a recursive method named `printEnglish` that prints out the digits of an integer in English. For example, `printEnglish(153)` would print `one five three`. Use the provided helper method, `digitToEnglish`, to convert a digit into an English word. For example, `printEnglish(-153)` would print `negative one five three`. For example, `printEnglish(103)` would print `one zero three`.
2. Rewrite your `printEnglish` method as `toEnglish`, which returns a `String` to the calling method. The return `String` should contain the entire phrase for the number.

### Expected output:

```
printEnglish( 123 )  
one two three
```

```
printEnglish( 98765 )  
nine eight seven six five
```

```
printEnglish( -2104 )  
negative two one zero four
```

```
toEnglish( 123 )  
success for toEnglish( 123 )
```

```
toEnglish( 98765 )  
success for toEnglish( 98765 )
```

```
toEnglish( -2104 )  
success for toEnglish( -2104 )
```

### Submit:

Submit you completed