CS-200: Programming I
Fall 2017
Northeastern Illinois University
PLTL: Week of 02/27/17
Arrays/Loops

Problem #1

- Write a program that has the class name `Problem1` and that has the `main` method.
- Prompt the user to enter a positive integer `n` greater than 1. Assume that the user will enter the correct value.
- Then prompt the user to enter `n` integers.
- Move all the 0's to the end of an array. Maintain the relative position of the other (non-zeros) array elements and print out the new array.
- You should also print out the number of `0`'s as well as the number of integers that are before `0`. If there are no `0`'s then print `"There are no zeros in the array."`
- Several sample runs are provided for you below. Your output must be formatted **exactly** like the sample runs below. Use the sample usages in the `main` method to test your code

```
Enter n ( > 1): 8
Enter 8 integers:  0 0 3 0 2 7 0 9
The new array with 0's at last:  3 2 7 9 0 0 0 0
There are 4 zeros in the array and there are 4 integers before them.
```

```
Enter n ( > 1): 7
Enter 7 integers: 4 0 3 0 0 5 8
The new array with 0's at last:  4 3 5 8 0 0 0
There are 3 zeros in the array and there are 4 integers before them.
```

```
Enter n ( > 1): 4
Enter 4 integers: 22 6 89 4
There are no zeros in the array.
```

Problem #2

- Write a program that has the class name `Problem2` and that has the `main` method. Leave the `main` method empty for now.
- Write a method named `palindromeChar` that takes one parameter, a character array `a` and returns a boolean.
- The program checks weather or not the given lists if char array is a palindrome or not. if the characters reads same forward and backwards the method returns `true` and if not the method returns `false`.
- A palindrome is a sequence of words, numbers or any characters that is the same when written forward or backwards.

- For example, an array of 'r', 'a', 'd', 'a', 'r', reads same from forward and backward so it returns `true` and prints out `It is a palindrome`. Similarly, 'w', 'a', 't', 'e', 'r', is not a palindrome and thus return `false` and prints `It is not a palindrome`.
- Several sample usages are provided for you below. Use the sample usages in the `main` method to test your code.

Sample Method Usage	Return Value
`char[] a = { 'r','a','c','e','c','a','r'};` `boolean a1 = palindromeChar(a);`	`true`
`char[] b = { 'w','a','t','e','r'};` `boolean b1 = palindromeChar(b);`	`false`
`char[] c = { 'f','o','o','f','a','a','r'};` `boolean c1 = palindromeChar(c);`	`false`
`char[] d = { 'c','b','a','a','b','c'};` `boolean d1 = palindromeChar(d);`	`true`