

CS-200: Programming I
Fall 2017
Northeastern Illinois University
PLTL: Week of 10/10/17
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) elements in the array and print out the new array with zeros at last.
- 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 and returns a boolean.
- The program checks whether or not the given lists of char array is 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