

CSc 21200 – 2019 Spring
Homework 1
Due February 12th, 2019

Name your implementation file as LastName(3 to 5 letters)_FirstNameInitial_HW1.cpp
Note: You can only use iostream, cassert, ctype, cmath, cstdio, and cstdlib.

1. Write a function that display **all numbers** between **0 and 30 (inclusive)** and
 - Print **Fizz** for multiples of **3**
 - Print **Buzz** for multiples of **5**
 - Print **FizzBuzz** for multiples of **3 and 5**
2. Write a function that lets the user enter a series of **ANY integer numbers**. If the user enters 99, the program will display the **largest** and **smallest** numbers (**not including 99**) that was entered, and the program will end. **Note: DO NOT** store all the numbers. Use the included function to print
3. Write a function that lets the user enter alphabet letters into a static char array until either the user enters a non-alphabet letter or it has reached the MAXSIZE. You can use the isalpha([char]) function in the ctype library to check if the input is an alphabet letter or not.
4. Assuming the user will only enter all lower-case letter, write a function that **returns** the letter of the highest number of occurrences in the user input array using Q1. If two or more characters have the same number of occurrences, **return** the one closest to a.
5. Write a function that ask the user the number of shift they want and shift the array according. **Note: You CANNOT** use any additional arrays. You should write a swap function.
For example, if the input characters are
a b c a d e b c a
and the number of spaces to shift is 3, the output will be:
b c a a b c a d e

If the number of spaces is negative, the shift will be to the left.
6. Write a function that combine a **sorted char static array** ar1 with size n1 and a **sorted char static array** ar2 with size n2 and **return one sorted char array** of the combine of those two arrays.

For example:

```
ar1[n1] = {'a', 'c', 'e', 'f'}; ar2[n2] = {'b', 'd', 'g'};  
newAr[n1+n2] = {'a', 'b', 'c', 'd', 'e', 'f', 'g'};
```