CSc 21200
Homework 1

Name your implementation file as LastName(3 to 5 letters)_FirstNameInitial_HW1.cpp
Note: You can only use iostream, cassert, cctype, 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 cctype 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’};
   ```