**Directions**: Launch BlueJ and load the project Z:\csa\csa\_exercises. *Create the project if it does not already exist.* We may create several classes for various exercises inside this project.

*Do not forget to start from a blank class!!!* Test thoroughly!!!

***Java Directions****: If you are doing this as a Java exercise, you will need to create a class file for each class and test it in a main method. Sample Java main method follows:*

*Public static void main(String[] args) {*

*}*

**ForLoops Class**

In this exercise, you will create the ForLoops class that takes two arrays as input. You will create several methods. The majority of those methods will work with those arrays. One array represents teachers and the other contains the grades of a specific student:

String[] teacherArray = {"Stoll", "Alsup", "Carlton", "Love",

"Widmar", "McAninch", "Bottarel"};

int[] gradeArray = {75, 99, 100, 87, 66, 83, 95};

1. Place the following line of code at the very beginning of the file. We will use it to copy the arrays into our instance variable arrays.
   1. import java.util.Arrays;
2. Create an instance variable for each array (give them appropriate names)
3. The constructor method must receive both arrays as parameters and set their respective instance variables (which are arrays). In order to do this, you must use the copyOf() method of the Arrays class *(which you imported previously)*.

**Note2:** Dynamically retrieve the array lengths as you need them. This will come from the .length variable. DO NOT USE the number 7 inside your methods! Your methods need to work no matter how many elements are in the array.

1. **printArrays()** **method**
   1. Prints out each array one after another using a for loop.
   2. Nothing is returned from this method.
   3. Test your method thoroughly.
2. **PrintReverse()** **method**
   1. Print out the reverse of each array one after another using a for loop.
   2. Nothing is returned from this method.
   3. Test your method thoroughly.
3. **sumArray()** **method**
   1. Use a for loop to calculate the average of the values in the gradeArray[].
   2. Return the sum from your method
   3. Print the value returned from the method.
   4. Test this method
4. **printLetters()** **method**
   1. Use a for loop to print each letter in the String parameter received by the method.
      1. You may call the String parameter variable whatever you like. As usual, it should describe the value it will receive.
   2. Print each letter on its own line.
   3. Print a carriage return (\n) before and after you print the letters from the word.
   4. Test this method.
5. **fibonacci()** **method**
   1. Use a for loop to print the Fibonacci values from a specific range of numbers. The parameters of this method are (startNumber1, startNumber2, and numberIterations)
   2. Automatically print startNumber1, and startNumber2 before printing any others.
   3. If you use (0, 1, 10) as arguments, the output should look like:

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144,

* 1. Nothing is returned from this method.

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**ForEach Class**

1. Create a class named ForEach that defines an instance variable that is a String array. Name the instance variable language. The constructor must accept an array of languages and set the language instance variable *(array).*
2. Create a printLanguages() method that uses a for each loop to print the elements of the language array on separate lines.
3. Use the following languages to pass into the constructor when creating an instance of the ForEach() class:

"Java", "Python", "HTML5", "CSS", "JavaScript", "SQL", "C"

1. Test your method
   1. Create a String array using the above values.
   2. Create an instance of the ForEach() class
   3. Call the printLanguages() method
   4. Check your data. Make sure all languages are printed