Java Programming

Assignment 09

Create a project called **Assignment09**. Create a Java class, also called *Assignment09.java* and copy this code into your IDE:

Assignment09.java

```
public class Assignment09 {

  public static void main(String[] args) {

    System.out.print("This program is written by Matt Weisfeld\n\n");

    // Array of integers
    int[] input = { 4, 2, 9, 6, 23, 12, 34, 0, 1 };

    BubbleSort sort = new BubbleSort();

    // Print the initial unsorted array
    System.out.print("Initial Unsorted Array\n");
    printNumbers(input);

    // Sort the array
    int[] output = sort.bubble_srt(input);

    // Print the final sorted array
    System.out.print("Final Sorted Array\n");
    printNumbers(output);

  }

  // Method to output an array of integers
  public static void printNumbers(int[] input) {
    for (int i = 0; i < input.length; i++) {
      System.out.print(input[i] + ", ");
    }
    System.out.println("\n");
  }
}
```

Next, create a Java class called *BubbleSort.java* and place this file into your IDE.

This is the file, *BubbleSort.java*, that you need to complete.

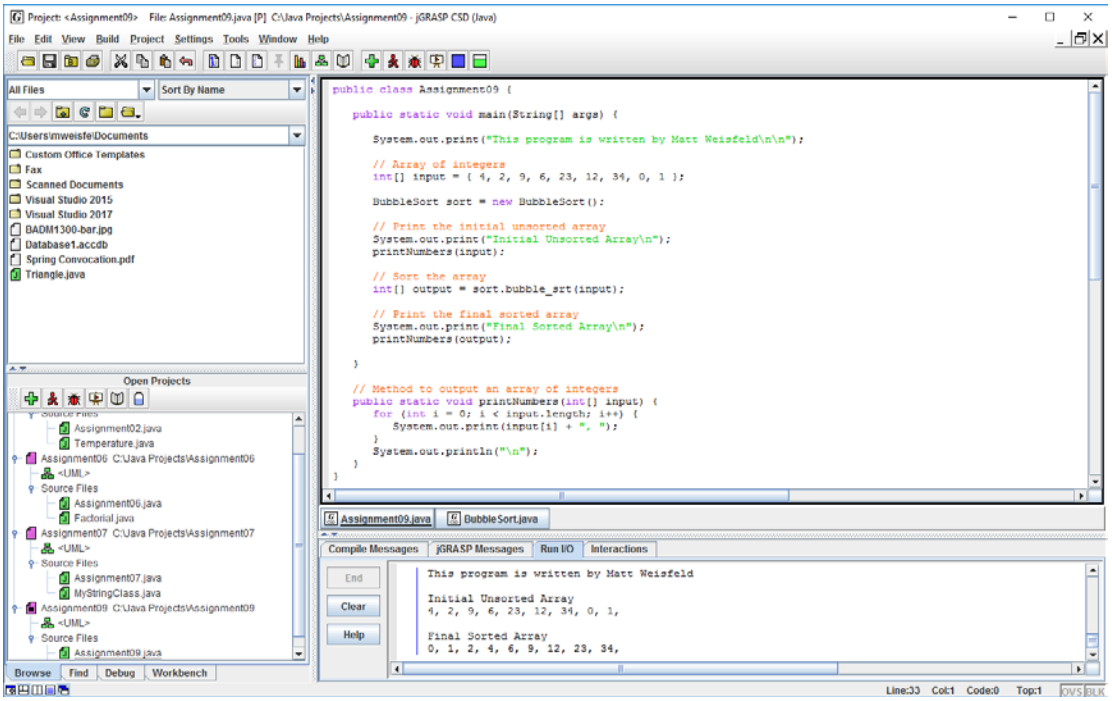
First, change the greetings to indicate that you wrote the program - not me ☺.

Then, complete the class by writing the code to provide the sorting functionality.

BubbleSort.java

```
public class BubbleSort
{

  // logic to sort the elements
  public int[] bubble_srt(int array[]) {

    // insert code here

    return (array);
  }

  private static void swapNumbers(int i, int j, int[] array) {

    // insert code here

  }
}
```

In **jGrasp** (the IDE that I am using) the screen will look like this after a successful compile and execution.



In short, you need to keep the same interface:

```
// Sort the array
int[] output = sort.bubble_srt(input);
```

Make sure that you code to the interface and make sure that you test with different input.

When I test your code I am going to try various arrays – not just the one in the example.

What to Turn In

All you need to turn in is the completed BubbleSort class - in a file called BubbleSort.java - with your original code implementing the sort (and it must be a Bubble Sort.

So please upload the file BubbleSort.java to Blackboard. I don't need the entire project. I will simply add the file you submit to my project and test it.