

## Insertion Sort

```
// Input: an array of ints in no particular order
// Function: sorts the values in the input array in nondecreasing
//           order
// Output: none
public static void insertionSort(int[] list) {

    // Run through each element of the list, starting at 1
    for(int i = 1; i < list.length; i++) {

        // Store the current element in a temporary variable
        int temp = list[i];

        // Count backward from our current position to the beginning
        // of the array
        int j = i - 1;

        // Find the correct place to insert the current element
        // Keep going until we reach the beginning of the array
        // or find a smaller element
        while(j >= 0 && list[j] > temp) {

            // Shift over the element that was bigger than our
            // current element
            list[j+1] = list[j];

            j--;
        }

        // Store the current element into the remaining "hole"
        // in the array
        list[j+1] = temp;
    }
}
```