```java
// Input: an array of ints
//
// Function;  sorts the values in the input array in non-decreasing order.
//
// Output: none
//
public static void insertionSort(int[] a) {

    // Iterate over the array, starting at index 1.
    for (int i = 1; i < a.length; i++) {

        // Store the current element in a temporary variable.
        int t = a[i];

        // Keep track of the index of the cell of the array whose value we want
        // to compare t to, starting from the one just before t.
        int j = i-1;

        // Find the correct cell for t so the cells from 0 to i will contain
        // values in sorted order.
        // Keep going until we reach the beginning of the array or find a
        // not-larger element.
        while (j >= 0 && t < a[j]) {

            // Copy the element that is bigger than t to the following cell,
            // which is "free".
            a[j+1] = a[j];

            j--;
        }

        // Store t in the newly "free" cell of the array.
        a[j+1] = t;
    }
}
```