# Phase 1 Practice Project – Assisted Practice

**8. Write a program in java implementing the Quick sort algorithm.**

**package** algorithms;

**public** **class** QuickSort {

**public** **static** **void** quickSort(**int**[] arr, **int** low, **int** high) {

**if** (low < high) {

**int** pivotIndex = *partition*(arr, low, high);

*quickSort*(arr, low, pivotIndex - 1);

*quickSort*(arr, pivotIndex + 1, high);

}

}

**public** **static** **int** partition(**int**[] arr, **int** low, **int** high) {

**int** pivot = arr[high];

**int** i = (low - 1);

**for** (**int** j = low; j < high; j++) {

**if** (arr[j] <= pivot) {

i++;

// Swap arr[i] and arr[j]

**int** temp = arr[i];

arr[i] = arr[j];

arr[j] = temp;

}

}

// Swap arr[i + 1] and arr[high] (pivot)

**int** temp = arr[i + 1];

arr[i + 1] = arr[high];

arr[high] = temp;

**return** i + 1;

}

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

**int**[] arr = {38, 27, 43, 3, 9, 82, 10};

**int** n = arr.length;

*quickSort*(arr, 0, n - 1);

System.***out***.println("Sorted array:");

**for** (**int** i : arr) {

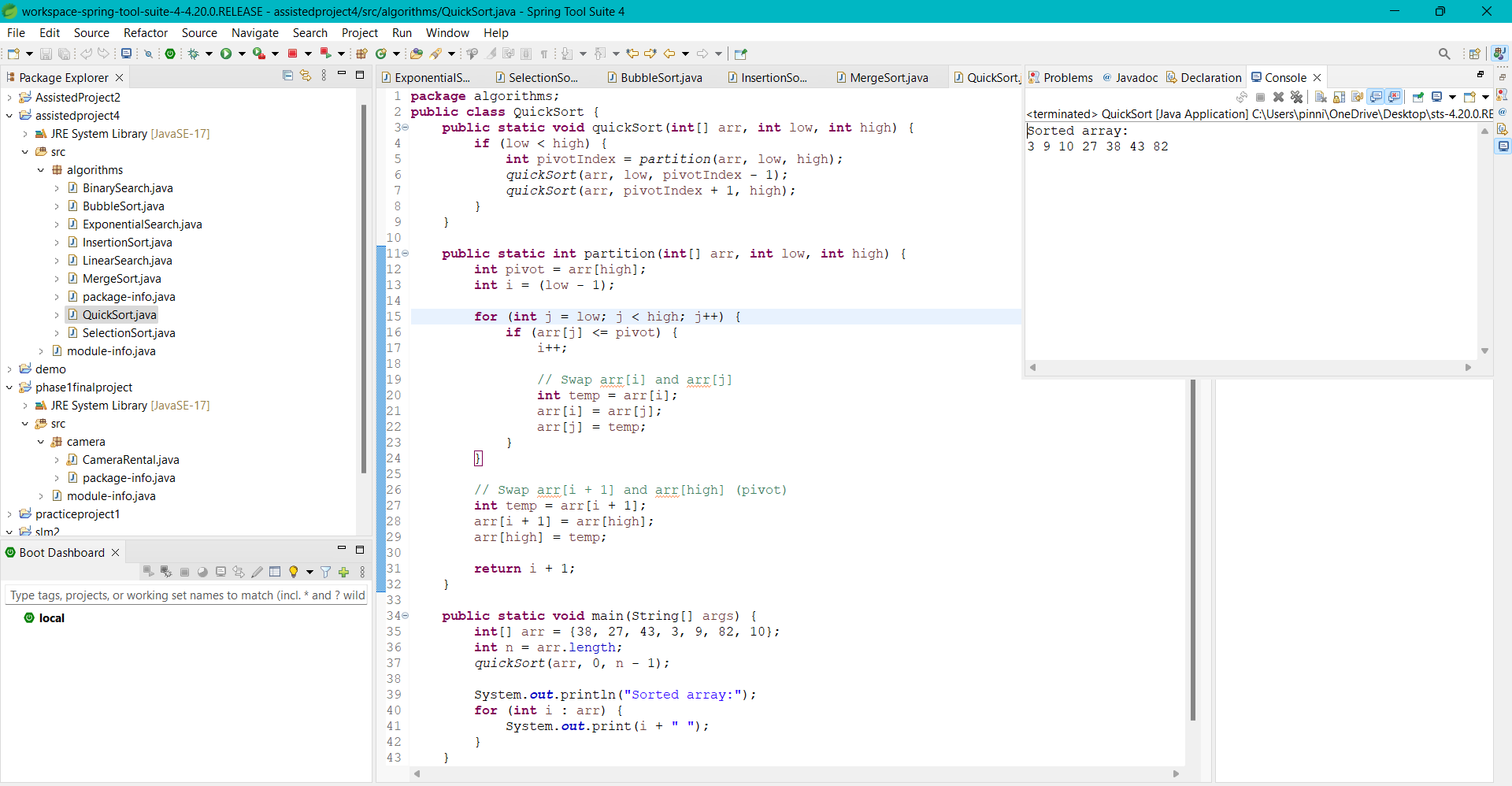
System.***out***.print(i + " ");

}

}

}

# Output:

****