public class RadixSorter {

/\*\*

\* TODO: Execute radix sort in-place on the given array.

\*\*/

void radixSort(int array[]) {

int max = getMax(array);

for (int digit = 1; max/digit > 0; digit \*= 10){

countingSort(array, digit);

}

}

/\*\*

\* Does counting sort on the given array for the given digit.

\* digit is 10^(digit to sort by)

\*\*/

void countingSort(int array[], int digit) {

// Array to temporarily store sorted array

int output[] = new int[array.length];

// Stores how many elements we have of each digit

int count[] = new int[10];

// Count how many elements we have of each digit

for (int num : array) {

count[(num / digit) % 10]++;

}

// Count how many elements we have of each digit less than or equal to itself

for (int i = 1; i < 10; i++) {

count[i] += count[i - 1];

}

// Sort the array by digit

for (int i = array.length - 1; i >= 0; i--) {

int num = (array[i] / digit) % 10;

output[count[num] - 1] = array[i];

count[num]--;

}

// Copy output array into original array

for (int i = 0; i < array.length; i++) {

array[i] = output[i];

}

}

/\*\*

\* Get the maximal element of a given array

\*\*/

int getMax(int array[]) {

int max = array[0];

for (int num : array) {

max = num > max ? num : max;

}

return max;

}

public static void main(String[] args) {

System.out.println("This is RadixSorter");

}

}