**package** sort;

**import** java.util.Scanner;

**public** **class** QuickSort

{

**int** partition (**int** a[], **int** start, **int** end)

{

**int** pivot = a[end];

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

**for** (**int** j = start; j <= end - 1; j++)

{

**if** (a[j] < pivot)

{

i++;

**int** t = a[i];

a[i] = a[j];

a[j] = t;

}

}

**int** t = a[i+1];

a[i+1] = a[end];

a[end] = t;

**return** (i + 1);

}

**void** quick(**int** a[], **int** start, **int** end)

{

**if** (start < end)

{

**int** p = partition(a, start, end);

quick(a, start, p - 1);

quick(a, p + 1, end);

}

}

**void** printArr(**int** a[], **int** n)

{

**int** i;

**for** (i = 0; i < n; i++)

System.***out***.print(a[i] + " ");

}

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

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("enter size of array");

**int** n=sc.nextInt();

**int** a[]=**new** **int**[n];

System.***out***.println("Enter elements in array");

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

a[i]=sc.nextInt();

}

System.***out***.println("\nBefore sorting array elements are - ");

QuickSort q1 = **new** QuickSort();

q1.printArr(a, n);

q1.quick(a, 0, n - 1);

System.***out***.println("\nAfter sorting array elements are - ");

q1.printArr(a, n);

System.***out***.println();

}

}