DAY 10

import java.util.Scanner;

class Sorting {

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

static void input(int arr[]) {

System.out.print("Enter the array elements: ");

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

arr[i] = sc.nextInt();

}

}

static void display(int arr[]) {

System.out.print("Array elements are: ");

for(int i : arr) {

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

}

}

/\*

static void bubbleSort(int arr[]) {

int temp, n = arr.length;

for(int i = 0; i < n - 1; i++) {

for(int j = 0; j < n - 1 - i; j++) {

if(arr[j] > arr[j + 1]) {

temp = arr[j];

arr[j] = arr[j + 1];

arr[j + 1] = temp;

}

}

}

}

\*/

static void enhancedBubbleSort(int arr[]) {

int temp, n = arr.length, flag;

for(int i = 0; i < n - 1; i++) {

flag = 0;

for(int j = 0; j < n - 1 - i; j++) {

if(arr[j] > arr[j + 1]) {

temp = arr[j];

arr[j] = arr[j + 1];

arr[j + 1] = temp;

flag = 1;

}

}

if(flag == 0)

break;

}

}

static void selectionSort(int arr[]) {

int n = arr.length, pos, temp;

for(int i = 0; i < n - 1; i++) {

pos = i;

for(int j = i + 1; j < n; j++) {

if(arr[j] < arr[pos])

pos = j;

}

temp = arr[pos];

arr[pos] = arr[i];

arr[i] = temp;

}

}

static void insertionSort(int arr[]) {

int n = arr.length, key, i;

for(int j = 1; j < n; j++) {

key = arr[j];

i = j - 1;

while(i >= 0 && arr[i] > key) {

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

i--;

}

arr[i + 1] = key;

}

}

public static void main(String[] args) {

int array[], n;

System.out.print("Enter the array size: ");

n = sc.nextInt();

array = new int[n];

input(array);

//bubbleSort(array);

//enhancedBubbleSort(array);

//selectionSort(array);

insertionSort(array);

display(array);

}

}