**package** Sorting\_Algorithms;

**public class** MinMaxAlgorithm {

**public int min** = 0;

**public int max** = 0;

**public int**[] **tempArray**;

**public void** getArray(**int**[] inputArray)

{

**this**.**tempArray** = inputArray;

**this**.**max** = inputArray[0];

**this**.**min** = inputArray[0];

partition(0,**tempArray**.**length**-1);

}

**public void** partition(**int** lowerIndex, **int** higherIndex)

{

**if** (lowerIndex<higherIndex)

{

**int** middle = lowerIndex + (higherIndex - lowerIndex)/2;

partition(lowerIndex,middle);

partition(middle + 1,higherIndex);

findMinMax(lowerIndex,middle,higherIndex);

}

}

**public void** findMinMax(**int** lowerBound, **int** middle, **int** higherBound)

{

**int** i = lowerBound;

**int** j = middle + 1;

**while** (i<=middle)

{

**if** (**max**<=**tempArray**[i])

{

**max** = **tempArray**[i];

i = i + 1;

}**if** (**min** >= **tempArray**[i])

{

**min** = **tempArray**[i];

}

i++;

}

**while** (j<=higherBound)

{

**if** (**max**<=**tempArray**[j])

{

**max** = **tempArray**[j];

j = j + 1;

}**if** (**min** >= **tempArray**[j])

{

**min** = **tempArray**[j];

}

j++;

}

}

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

**int**[] inputArray = {-1,5,-4,9000,-8,100,-60,0,600,90008,87,-543};

MinMaxAlgorithm objectMinMax = **new** MinMaxAlgorithm();

objectMinMax.getArray(inputArray);

System.***out***.println(**"Max: "**+objectMinMax.**max**+**" "**+**"Min: "**+objectMinMax.**min**);

}

}