**public** **class** MergeSort {

**int**[] array;

**int**[] tempMergeArr;

**int** length;

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

// **TODO** Auto-generated method stub

**int**[] inputArr= {33,54,12,19,52,94,21};

MergeSort ms=**new** MergeSort();

ms.sort(inputArr);

System.***out***.print("After Sorting : ");

**for**(**int** i:inputArr)

{

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

}

}

**public** **void** sort(**int** inputArr[])

{

**this**.array=inputArr;

**this**.length=inputArr.length;

**this**.tempMergeArr=**new** **int**[length];

divideArray(0,length-1);

}

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

{

**if**(lowerIndex<higherIndex)

{

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

divideArray(lowerIndex,middle);

divideArray(middle+1,higherIndex);

mergeArray(lowerIndex,middle,higherIndex);

}

}

**public** **void** mergeArray(**int** lowerIndex, **int** middle,**int** highterIndex)

{

**for**(**int** i=lowerIndex;i<=highterIndex;i++)

{

tempMergeArr[i]=array[i];

}

**int** i=lowerIndex;

**int** j=middle+1;

**int** k=lowerIndex;

**while**(i<=middle && j<=highterIndex)

{

**if**(tempMergeArr[i]<=tempMergeArr[j])

{

array[k]=tempMergeArr[i];

i++;

}

**else**

{

array[k]=tempMergeArr[j];

j++;

}

k++;

}

**while**(i<=middle)

{

array[k]=tempMergeArr[i];

k++;

i++;

}

}

}