```
 1 package sorting;
 2
 3 // with static function calling recursively another program without static in same package is
   their.
 4
 5 public class MergeSort {
 6
 7     static void mergeSort(int a[],int left,int right,int n) {
 8
 9         if(left < right) {
10
11             int mid = (left + right) / 2;
12
13             mergeSort(a,left,mid,n);
14             mergeSort(a,mid+1,right,n);
15             merge(a,left,mid,right,n);
16         }
17
18
19     }
20
21     static void merge(int a[],int left,int mid, int right, int n) {
22
23         int i =left; int j = mid + 1; int temp[]= new int[n]; int k= left;
24
25
26         while(i<=mid && j <= right) {
27
28             if(a[i]<a[j]) {
29                 temp[k] = a[i];
30                 i++;
31             }
32             else {
33
34                 temp[k] = a[j];
35                 j++;
36             }
37
38             k++;  // incrementing the value of the final array.for both the conditions.
39
40
41         }
42
43         while(i<=mid) {
44             temp[k] = a[i];
45             i++; k++;
46         }
47
48         while(j<=right) {
49             temp[k] = a[j];
50             j++; k++;
51         }
52
53         for(int x=left;x<=right;x++)
54             a[x] = temp[x];
55
56
```

```java
57      }
58
59      public static void main(String[] args) {
60
61          int a[]= {6,5,4,3,2,1};
62
63          int n = a.length;
64          int l = 0;
65          int r = n -1;
66
67          //MergeSort m = new MergeSort();
68
69          mergeSort(a,l,r,n);
70
71
72          System.out.println("Printing sorted array...");
73
74          for(int i=0;i<=r;i++)
75              System.out.print(a[i]+"  ");
76
77      }
78
79 }
80
81 /*************************** OUTPUT *************************
82  *
83  * Printing sorted array... 1 2 3 4 5 6
84  *
85  */
```