

```

1  import java.io.*;
2  import java.util.*;
3
4  class SelectionSortAlgorithm{
5
6
7      public static void selectionSort(int array[], int arraySize){
8
9          for (int iterationNum = 0; iterationNum < arraySize-1; iterationNum++){
10
11              int minIndex = iterationNum;
12
13              for (int j = iterationNum+1; j < arraySize; j++){
14
15                  if (array[j] < array[minIndex])
16                      minIndex = j;
17
18              }
19
20              // swap array[minIndex] with array[iterationNum]
21              int temp = array[minIndex];
22              array[minIndex] = array[iterationNum];
23              array[iterationNum] = temp;
24
25          }
26
27      }
28
29      public static void main(String[] args){
30
31          Scanner input = new Scanner(System.in);
32
33          int numElements;
34          System.out.print("Enter the number of elements in the array: ");
35          numElements = input.nextInt();
36
37          int maxValue;
38          System.out.print("Enter the maximum value for an element in the array: ");
39          maxValue = input.nextInt();
40
41          Random randGen = new Random(System.currentTimeMillis());
42
43          int array[] = new int[numElements];
44
45          System.out.print("Generated array: ");
46          for (int index = 0; index < numElements; index++){
47              array[index] = randGen.nextInt(maxValue);
48              System.out.print(array[index] + " ");
49          }
50          System.out.println();
51
52          selectionSort(array, numElements);
53
54          System.out.print("Sorted array: ");
55          for (int index = 0; index < numElements; index++){
56              System.out.print(array[index] + " ");
57          }
58          System.out.println();
59
60          Enter the number of elements in the array: 10
61          Enter the maximum value for an element in the array: 25
62          Generated array: 11 2 12 8 11 23 14 8 13 15
63          Sorted array: 2 8 8 11 11 12 13 14 15 23

```