

```
1 using System;
2 using System.Collections.Generic;
3 using System.IO;
4 using System.Linq;
5 using System.Text;
6
7 namespace Algorithms
8 {
9     /// <summary>
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11    /// </summary>
12    public class Selection_Sort
13    {
14        public static void Main()
15        {
16            new Selection_Sort().Run(Console.In, Console.Out);
17        }
18        public void Run(TextReader reader, TextWriter writer)
19        {
20            int[] result = SelectionSort(new int[] { 89, 45, 68, 90, 29, 34,
21            17 });
22            foreach (int i in result) writer.Write(i + ",");
23            reader.ReadLine();
24        }
25        /// <summary>
26        /// Sorts a given array by selection sort
27        /// </summary>
28        /// <param name="A">an array A[0..n-1] or orderable elements</param>
29        /// <returns>Array A[0..n-1] sorted in ascending order</returns>
30        public int[] SelectionSort(int[] A)
31        {
32            for (int i = 0; i <= A.Length - 2; i++)
33            {
34                int min = i;
35                for (int j = i + 1; j <= A.Length - 1; j++)
36                {
37                    if (A[j] < A[min]) min = j;
38                    Swap(ref A, i, min);
39                }
40            }
41            return A;
42        }
43        void Swap(ref int[] A, int index, int min)
44        {
45            int a = A[index], b = A[min];
46            A[index] = b;
47            A[min] = a;
48        }
49    }
50 }
```