Array Class

The Array class is the base class for all the arrays in C#. It is defined in the System namespace. The Array class provides various properties and methods to work with arrays.

Properties of the Array Class

The following table describes some of the most commonly used properties of the Array class:

|  |  |
| --- | --- |
| Sr.No | Property |
| 1 | IsFixedSize  Gets a value indicating whether the Array has a fixed size. |
| 2 | IsReadOnly  Gets a value indicating whether the Array is read-only. |
| 3 | Length  Gets a 32-bit integer that represents the total number of elements in all the dimensions of the Array. |
| 4 | LongLength  Gets a 64-bit integer that represents the total number of elements in all the dimensions of the Array. |
| 5 | Rank  Gets the rank (number of dimensions) of the Array. |

Methods of the Array Class

The following table describes some of the most commonly used methods of the Array class:

|  |  |
| --- | --- |
| Sr.No | Methods |
| 1 | Clear  Sets a range of elements in the Array to zero, to false, or to null, depending on the element type. |
| 2 | Copy(Array, Array, Int32)  Copies a range of elements from an Array starting at the first element and pastes them into another Array starting at the first element. The length is specified as a 32-bit integer. |
| 3 | CopyTo(Array, Int32)  Copies all the elements of the current one-dimensional Array to the specified one-dimensional Array starting at the specified destination Array index. The index is specified as a 32-bit integer. |
| 4 | GetLength  Gets a 32-bit integer that represents the number of elements in the specified dimension of the Array. |
| 5 | GetLongLength  Gets a 64-bit integer that represents the number of elements in the specified dimension of the Array. |
| 6 | GetLowerBound  Gets the lower bound of the specified dimension in the Array. |
| 7 | GetType  Gets the Type of the current instance. (Inherited from Object.) |
| 8 | GetUpperBound  Gets the upper bound of the specified dimension in the Array. |
| 9 | GetValue(Int32)  Gets the value at the specified position in the one-dimensional Array. The index is specified as a 32-bit integer. |
| 10 | IndexOf(Array, Object)  Searches for the specified object and returns the index of the first occurrence within the entire one-dimensional Array. |
| 11 | Reverse(Array)  Reverses the sequence of the elements in the entire one-dimensional Array. |
| 12 | SetValue(Object, Int32)  Sets a value to the element at the specified position in the one-dimensional Array. The index is specified as a 32-bit integer. |
| 13 | Sort(Array)  Sorts the elements in an entire one-dimensional Array using the IComparable implementation of each element of the Array. |
| 14 | ToStringk  Returns a string that represents the current object. (Inherited from Object.) |

For complete list of Array class properties and methods, please consult Microsoft documentation on C#.

Example

The following program demonstrates use of some of the methods of the Array class:

using System;

namespace ArrayApplication

{

class MyArray

{

static void Main(string[] args)

{

int[] list = { 34, 72, 13, 44, 25, 30, 10 };

int[] temp = list;

Console.Write("Original Array: ");

foreach (int i in list)

{

Console.Write(i + " ");

}

Console.WriteLine();

// reverse the array

Array.Reverse(temp);

Console.Write("Reversed Array: ");

foreach (int i in temp)

{

Console.Write(i + " ");

}

Console.WriteLine();

//sort the array

Array.Sort(list);

Console.Write("Sorted Array: ");

foreach (int i in list)

{

Console.Write(i + " ");

}

Console.WriteLine();

Console.ReadKey();

}

}

}

When the above code is compiled and executed, it produces the following result:

Original Array: 34 72 13 44 25 30 10

Reversed Array: 10 30 25 44 13 72 34

Sorted Array: 10 13 25 30 34 44 72