1. When to use String vs. StringBuilder in C# ?

String:

* Use Case: When you have a fixed or relatively small number of string manipulations.
* Reason: Strings are immutable in C#. Every time you modify a string, a new instance is created, which can be inefficient in terms of memory and performance if many changes are made.

StringBuilder:

* Use Case: When you need to perform numerous or complex string manipulations.
* Reason: StringBuilder is mutable, meaning it can be modified without creating new instances. This makes it more efficient for scenarios involving extensive string operations.

1. What is the base class for all arrays in C#?

The base class for all arrays in C# is System.Array.

1. How do you sort an array in C#?

You can sort an array in C# using the Array.Sort method. This method sorts the elements of the array in ascending order.

4. What property of an array object can be used to get the total number of elements in an array?

The Length property of an array object can be used to get the total number of elements in the array.

5. Can you store multiple data types in System.Array?

No, a System.Array cannot store multiple data types directly because it is a strongly typed collection. All elements in the array must be of the same type. However, you can use an array of object to store different data types, since all types derive from object.

6. What’s the difference between the System.Array.CopyTo() and System.Array.Clone()?

System.Array.CopyTo():

* Function: Copies the elements of one array to another existing array starting at a specified index.
* Shallow Copy: The elements are copied to the target array, but both arrays share references for reference types.

System.Array.Clone():

* Function: Creates a shallow copy of the array.
* Returns: A new array object that is a copy of the original array. The copied elements are the same references as in the original array if the elements are reference types.