**Task 1**

**Describe the strings in C#.**

A string is an object of type [String](http://msdn.microsoft.com/en-us/library/system.string.aspx) whose value is text. Internally, the text is stored as a sequential read-only collection of [Char](http://msdn.microsoft.com/en-us/library/system.char.aspx) objects. There is no null-terminating character at the end of a C# string; therefore a C# string can contain any number of embedded null characters ('\0'). The [Length](http://msdn.microsoft.com/en-us/library/system.string.length.aspx) property of a string represents the number of Char objects it contains, not the number of Unicode characters. To access the individual Unicode code points in a string, use the [StringInfo](http://msdn.microsoft.com/en-us/library/system.globalization.stringinfo.aspx) object.

**What is typical for the string data type?**

The **string** class has an important feature – the character sequences stored in a variable of the class are never changing (**immutable**). After being assigned once, the content of the variable does not change directly – if we to change the value, it will be saved to a new location in the dynamic memory and the variable will point to it.

**Describe the most important methods of the String class.**

*String.ToLower(…)*

* Returns a copy of this string converted to lowercase.

*ToUpper(…)*

* Returns a copy of this string converted to uppercase.

*IndexOf(…)*

* Reports the zero-based index of the first occurrence of the specified element in this string.

*Substring (…)*

* Retrieves a substring from this instance. The substring starts at a specified character position and continues to the end of the string.

*Replace(…)*

* Returns a new string in which all occurrences of a specified char/string in the current instance are replaced with another specified char/string.

*Split(…)*

* Returns a string array that contains the substrings in this instance that are delimited by elements of a specified Unicode character array.

*Join(…)*

* Concatenates all the elements of a array, using the specified separator between each element.

*Trim(…)*

* Removes all leading and trailing white-space characters from the current [String](http://msdn.microsoft.com/en-us/library/system.string%28v=vs.110%29.aspx) object.

*Fromat(…)*

* Replaces each format item in a specified string with the text equivalent of a corresponding object's value.

*ToString(…)*

* Returns this instance of [String](http://msdn.microsoft.com/en-us/library/system.string%28v=vs.110%29.aspx); no actual conversion is performed.