

Assignment (1)

String is one of the most common classes used from the STL, and there are many functionality used in the string class. Strings are defined as an array of characters. The difference between a character array and a string is the string is terminated with a special character '\0'.

Use you previous background from OOP to create your custom string class named “MyString” which will have the same functionality as the existing string class. Like the following:

- 1-** Basic Functions like (Default Constructor, Constructor with parameter list, Copy constructor and destructor).
- 2-** Remove (): Removes the last element from the MyString object.
- 3-** Add (char item): Accepts a character as an argument and adds it to the end of the MyString object.
- 4-** Length (): Returns the length of the MyString.
- 5-** Copy (): It copies the MyString object to a character array from a given position (pos) and a specific length (len).
- 6-** Swap (): It swaps the two MyString objects.
- 7-** Concatenate two strings using overloading the '+' operator: Allows us to concatenate two strings.
- 8-** Compare (string1, string2): Returns a value that represents the result of the comparison. It may return one of the following values: -1 (if string1 < string2) or 0 (if string1 = string2) or 1 (if string1 > string2).
- 9-** Substring (startIndex, endIndex): Returns a new string that is a substring of this string.
- 10-** Trim (): Returns a copy of this string with leading and trailing white space removed.
- 11-** ToLowerCase (): Returns a copy of this string converted to uppercase. If no conversions are necessary, these methods return the original string.
- 12-** ToUpperCase (): Returns a copy of this string converted to lowercase. If no conversions are necessary, these methods return the original string.
- 13-** IndexOf (int ch): Returns the index of the first occurrence of the specified character.
- 14-** LastIndexOf (int ch): Returns the index of the first occurrence of the specified character.
- 15-** Replace (oldChar, newChar): Returns a new string resulting from replacing all occurrences of oldChar in this string with newChar.

Finally, you should design a simple interface (Menu) that enables us to test all functions and choose from them.

- **The deadline for delivering the assignment will be 30/4/2021**
- **Maximum number of students for each group is 3**

Good Luck