LAB 06

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e) Start the program in debugger mode and observe its execution in StringTest.cpp. When will a copy constructor and a destructor be called? Why?

Answer: The copy constructor and the destructor will be called at the same time, as seen in the debugger mode. They are called before the line copy in the main function. Because there the compiler needs to create a new object to copy the elements. Also, the destructor will be called there because there the compiler needs to destroy the s1 object and create a new memory for that.

f) Show that if a static function is substituted by a non-static one, then the latter refers to a class object, and not to the class itself. For example:

static bool compare(const String& string1, const String& string2);

// compare: string1 to string2

bool compare(const String& string1);

// compare: this to string1

Answer:

We know that a Static elements are allocated storage only once in a program lifetime in static storage area. And they have a scope till the program lifetime. These functions work for the class as whole rather than for a particular object of a class.

When we change something in a static function, it takes place every where in the class and it's objects, but that does not happen with a non static one.