

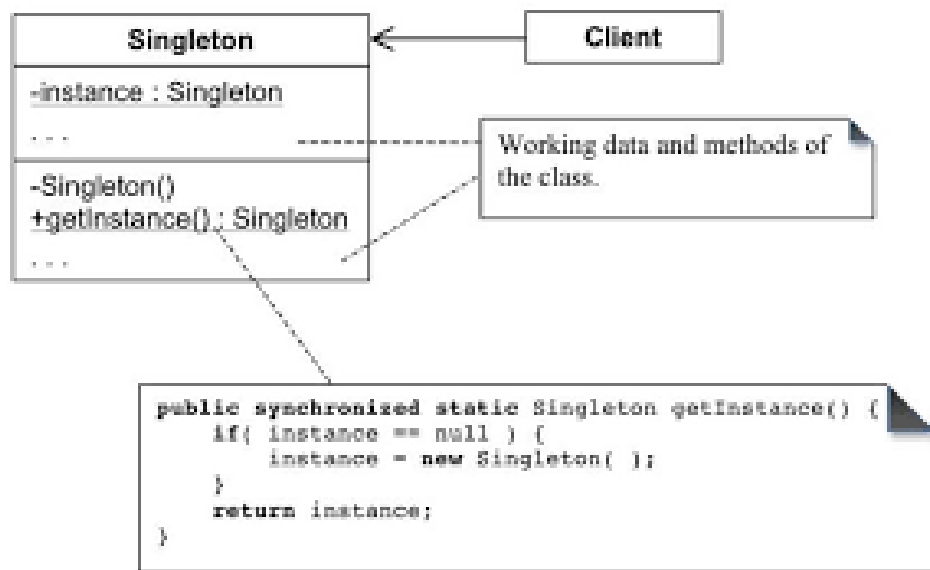
## DESIGN PATTERN LAB-3

### IMPLEMENTATION OF SINGLETON DESIGN PATTERN

#### TASK 1

In previous lecture you have learned singleton design pattern, its applicability, guidelines, use-cases, advantages and disadvantages. We also explored the pattern have multiple scenarios including simple/default, inheritance and multi-threaded but only the default scenario was demonstrated using C# code examples.

The following UML diagram depicts the singleton design pattern.



**Task -1:** Your task is to write the C# code according to the object interactions shown in the above diagram.

**Task -2:** Add a brand new WinForms GUI project to the solution that you are already working in Visual Studio. Name it EditorX and implement logic for a simple text editor.

Add a security module to this application, and implement a real world use-case of the singleton design pattern in this module.

Create a Login Class and implement a singleton logic in it so that the single instance of the Login object is ensured throughout the application.