28227 – J P T DILANKA

22.2

Software Architecture

LibraryManager Class

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Central_Management_System
{
    using System;
    using System.Collections.Generic;

    public class LibraryManager
    {

        private static LibraryManager instance = null;


        private static readonly object _lock = new object();


        private LibraryManager()
        {
            books = new List<string>();
```

```csharp
        users = new List<string>();

    }


    public static LibraryManager GetInstance()

    {


        lock (_lock)

        {

            if (instance == null)

            {

                instance = new LibraryManager();

            }

        }

        return instance;

    }


    private List<string> books;

    private List<string> users;


    public void AddBook(string book)

    {

        books.Add(book);

        Console.WriteLine($"Book '{book}' added to the library.");

    }
```

```csharp
    public void AddUser(string user)

    {

      users.Add(user);

      Console.WriteLine($"User '{user}' added to the library system.");

    }



    public void DisplayBooks()

    {

      Console.WriteLine("\nBooks in the Library:");

      foreach (var book in books)

      {

        Console.WriteLine(book);

      }

    }



    public void DisplayUsers()

    {

      Console.WriteLine("\nUsers in the Library System:");

      foreach (var user in users)

      {

        Console.WriteLine(user);

      }

    }

  }

}
```

Program Class

```csharp
using Central_Management_System;

class Program
{
    static void Main(string[] args)
    {

        LibraryManager libraryManager = LibraryManager.GetInstance();



        libraryManager.AddBook("Harry Potter and Goblet of Fire");
        libraryManager.AddBook("2005");

        libraryManager.AddUser("Thanuji");
        libraryManager.AddUser("Dilanka");

        libraryManager.DisplayBooks();
        libraryManager.DisplayUsers();
    }
}
```