**Scenario: "Student Course Management System"**

You are building a **Student Course Management System** for a small educational institute. The application allows **students to register and log in**, and after logging in, they can **view, enroll, and drop courses**. An **admin** can manage (add, update, delete) the list of available courses.

Implement this application using the following patterns and tools:

* ASP.NET Core MVC
* DTOs
* AutoMapper
* Interface-based Repository and Service Layer
* Role as Enum
* Entity Framework Core
* Session-based authentication

**📝 Tasks**

**🔐 1. User Registration & Login**

* Implement registration and login for two roles: Student and Admin.
* After login:
  + **Students** should be redirected to a page that lists available courses.
  + **Admins** should be redirected to the course management page.

**📦 2. Course CRUD (Admin only)**

* Admin should be able to:
  + Create a new course.
  + Update existing course details.
  + Delete a course.
  + View the list of all courses.

**📚 3. Student Course Enrollment (Student only)**

* Student can:
  + View all available courses.
  + Enroll in a course.
  + View enrolled courses.
  + Drop (unenroll) from a course.

**🧱 Structure Requirements**

**1. Use DTOs**

* Use CourseDTO, UserDTO, EnrollmentDTO, etc., to transfer data between layers.

**2. AutoMapper**

* Map between entities and DTOs.

**3. Repository Pattern**

* Create interfaces like ICourseRepository, IUserRepository, IEnrollmentRepository.

**4. Service Layer**

* Services should encapsulate business logic and interact with repositories.
  + ICourseService
  + IUserService
  + IEnrollmentService

**5. Session-Based Authentication**

* Store user role and ID in session after login.
* Use role-based authorization for access control in controllers.

**1. Project Structure**

/Models

User.cs

Course.cs

Enrollment.cs

/DTOs

UserDTO.cs

CourseDTO.cs

EnrollmentDTO.cs

/Enum

UserRole.cs

/Interfaces

IUserRepository.cs

ICourseRepository.cs

IEnrollmentRepository.cs

IUserService.cs

ICourseService.cs

IEnrollmentService.cs

/Repositories

UserRepository.cs

CourseRepository.cs

EnrollmentRepository.cs

/Services

UserService.cs

CourseService.cs

EnrollmentService.cs

/Controllers

AccountController.cs

CourseController.cs

EnrollmentController.cs

/Profiles

MappingProfile.cs