Objective:

Learn what unit tests and integration tests are. Learn how to mock dependencies and test isolated modules. Learn how to setup integration tests.

Theory:

- https://www.geeksforgeeks.org/types-software-testing/
- https://docs.microsoft.com/en-us/learn/modules/visual-studio-test-concepts/
- https://stackify.com/asp-net-core-testing-tools/
- https://docs.microsoft.com/en-us/aspnet/core/test/integration-tests?view=aspnetcore-6.0

Task:

Deadline: 3-4 days
Requirements:
- Learn about the current robust stack for unit-testing: XUnit + Moq + FluentAssertions.
- Write at least 10 unit-tests for any service. Half of them should cover get functionality, another half is for create/update operations.
- Learn about how to write integration tests using nUnit/xUnit.

Answer all of these questions to be prepared:
1. What are the different types of tests and what are their purposes?
2. What parts/layers of the application are worth covering with unit tests?
3. What are the common cases for integration tests? What challenges will you face with integration tests (setup/cleanup)?