

Assignment 2

Mocking

Mocking is an essential technique in testing and fulfills a specific purpose during unit testing. *Explain the concept of mocking and its application in unit tests.*

Deliverables The submission to this exercise must contain all of the following:

1. An explanation of mocking
2. An explanation of what purpose mocking fulfills in unit testing.

Unit testing

In conventional software development, unit tests are often the first tests that are written: they are on the lowest level of the testing pyramid, meaning that they are great in number but small in scope. A solid set of unit tests is essential ensure the reliability of all components.

In the current version of the EduTask system, the login functionality does not yet require a password. Instead, users can authenticate to the system just by entering an email address of a registered account. This decision has been made to deliver an illustrative prototype earlier and postpone the security-critical password authentication to a later sprint in the development. However, it should at least be ensured that the authentication using just the email address works as intended.

*Design, implement, and evaluate unit tests for the **get_user_by_email** function in the file **backend/src/controllers/usercontroller.py**. Follow best practices for unit test design and utilize mocking where applicable.*

Deliverables The submission to this exercise must contain all of the following:

1. A list of test cases for the method, which have been derived by selecting an appropriate oracle and applying the test design technique.
2. An implementation of these test cases using pytest.
3. An evaluation of the coverage of the test cases together with an interpretation of the coverage result.