QA-APP-MAIN TESTING

First, let you know that I'm not familiar with unit tests and in previous jobs these tests were created by developers because they are the ones who create the code.

To execute the tests, just go to the tests folder path, and type: pytest -v

For integration testing there are BACKEND and FRONTEND tests inside the tests folder of the same application provided for the test (QA-APP-MAIN), I just added this folder to the same structure of the project.

In the path \PycharmProjects\qa-app-main\qa-homework-main\tests\backend> you will find a file named api_test.py.

This file contains 3 automated test cases:

- `test_get_cells`
- `test_update_cell_value`
- `test_cell_updates_correctly`

Basically here I used the request python library which allows me to perform some http requests and then I assert the values I expected from the response, after sending the request to the server.

Example:

```
def test_get_cells():
    response = requests.get(f'{base_url}/cells')
    assert response.status_code == 200
    assert response.json()[8].get('value') is None
```

For the frontend In the path \PycharmProjects\qa-app-main\qa-homework-main\tests\frontend> you will find a file named ui_test.py.

This file contains 2 automated test cases:

- `test_add_numbers_to_cell`
- `test_sum_between_cells`

Here I used selenium for web actions and pytest as a framework to execute the test cases so when you run the test cases an chrome driver will show up.

I used a fixture in order to provide the option to handle the webdriver when a test case is executed, so this fixture is used in the class that contains the test cases and when these.

Basically what I do here is to create a functional test that validates that users are able to add numbers to cells, also strings like =A1+A2 and perform some assertions of expected values.

End to End test

- `test_ent_to_end_`

For this case I just used requests to make the api call to update a specific cell, and then using the UI I checked that the value displayed in the cell that the API updated, is the one expected in the requests.

Libraries:
Selenium
Request
Pytest
json