

# Modern Programming Techniques

## Test automation with PyTest - Project synopsis

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# **1. Theoretical introduction to test automation and PyTest**

## **1.1. Different areas of PyTest usage - WS**

Why we need to test our software and why PyTest makes it easier.

## **1.2. What is the test automation and why is it needed - BK**

Concept of test automation, different levels of testing in software testing and demands for each of them.

## **1.3. What is PyTest and why is it better than other tools - MP**

Presentation of PyTest and what makes it a great tool for test automation.

# **2. Installing PyTest and preparing the project**

## **2.1. Installing and configuring PyTest - MP**

PyTest installation and initial configuration.

## **2.2. Project structure - BK**

Showcase of proper methods for file naming and file structure in the project.

## **2.3. Creating and launching the project - WS**

How to use PyTest from CLI, talk through useful and important flags of `pytest[-3]` command. Other possible ways of calling `pytest[-3]` command.

# **3. Practical examples and showcase of PyTest**

## **3.1. Assert keyword - MP**

What is Assert keyword and how to use it in PyTest. Showcase of different Assert keyword types and options.

## **3.2. Running multiple tests and grouping them - BK**

How to manage multiple tests and how to run them.

## **3.3. Fixtures - WS**

Idea of Fixtures, their part in tests, and ways of creating and managing them.

## **3.4. Tests parameterization - MP**

Explanation of the idea of parameterization, a look inside its pros and cons and tips for correct usage.

## **3.5. Managing tests output and outcomes - BK**

How test failures should be handled and how to manage logging.

## **3.6. Simple introduction to monkeypatch/mock modules and environments - WS**

What is it for, how to use it(basics).

## **4. Labs - MP,BK,WS**

Basic and more advanced tasks(about five) that will be delivered after the video release.

## **5. Responsibilities**

All subsections are marked with initials, which indicate responsibilities of every person in group.

1. MP - Michał Partyka
2. BK - Bartosz Konopka
3. WS - Wiktor Szewczyk

Video and trailer will be created by whole team and cut by Bartosz Konopka with help of the rest of the group.