Cucumber

TDD - Test Driven Development

Ex: JUnit/TestNG (for Java), NUnit (for .NET), PyTest (for Python), Jasmine (for JavaScript)

BDD - Behavioral Driven Development

Ex: Cucumber (supports multiple languages like Java, Ruby, JavaScript, etc.)
SpecFlow (for .NET)
Behave (for Python)
JBehave (for Java)

Aspect	TDD (Test-Driven Development)	BDD (Behavior-Driven Development)
Focus	Focuses on **how** the code is implemented	Focuses on **what** the system should do
Language Used	Technical language (unit test frameworks)	Natural language (Gherkin: Given-When-Then format)
Test Level	Mostly **unit-level** tests	Mostly **acceptance-level** or functional tests
Participants	Mainly developers	Developers, testers, and business stakeholders
Tools	JUnit, TestNG, NUnit, etc.	Cucumber, SpecFlow, Behave, etc.
Documentation	Less readable by non-technical people	Acts as living documentation for all stakeholders
Example Test Style	`assertEquals(4, Calculator.add(2,2))`	`Given I enter 2 and 2, When I press add, Then I see 4`
Example Test Style	`assertEquals(4, Calculator.add(2,2))`	`Given I enter 2 and 2, When I press add, Then I see 4`
Communication	Less emphasis on collaboration	Strong emphasis on team collaboration

team
---
stake holders/customer (non-tech)
product manager (non-tech)
project manager - (non-tech)
tester - tech
developer - tech
scrum master (non-tech)

BDD, or Behavior-Driven Development, emphasizes collaboration between technical and non-technical stakeholders
through the use of a common language to describe the behavior of a system.
It focuses on writing tests in a human-readable format, typically using a "given-when-then" structure, which helps clarify requirements and expectations.

Test case for Login:

Pre condition - User should launch the browser and should have navigated to the URL. (Given)

Action - User enters valid credentials (When)

And click on login button (And)

Expected Result - User should be logged in/a confirmation message should be displayed. (Then)

Cucumber

---

1) Feature file
2) step definitions file
3) test runner file

Feature file contains scenarios & Steps.

Gherkin - language contains keywords..

Scenario
Given
When
Then
And

Pre-condition - Given
Actions - When
Validations - Then

Login.feature

Feature : User login

Scenario: Succesful login

Given the user opens application
And the user navigate to login page
When the user entered valid user name and valid password
And the user clicked on submit button.
Then the user should see My account page.
And the user name should be displayed on my account page

Step definition file contains methods which are represent to steps in feature file

Cucumber components

---

1) Feature file -contains Gherking keyword and in a format understandable by non tech people
2) step definitions file - Here we write actual code
3) test runner file - Here, we mention the path of feature file and also mention stepdefintion class. Basically we are merging stepdefinition & feature file here.

When writing scripts -> 1) Feature file 2) Step definition 3) Test runner
When executing -> 1) Test runner 2) Feature file 3) Step definition

Feature file contains scenarios & Steps.

Gherkin - language contains keywords..

Scenario
Given
When

---

1. In which approach do developers typically write test functions first and then implement code?

A. BDD

B. DDD

C. TDD

D. FDD

Answer: C

2. **Which of the following is true about BDD but NOT TDD?**

A. It involves writing tests before coding

B. It helps improve communication between technical and non-technical teams

C. It is mainly used for unit testing

D. It uses assert statements directly

Answer: B

3. **What is the role of the Step Definition file in Cucumber?**

A. To generate test reports

B. To write test scenarios in plain English

C. To link Gherkin steps with automation code

D. To store user credentials

Answer: C. To link Gherkin steps with automation code

4. **Why is Cucumber a popular tool in Behavior-Driven Development (BDD)?**

A. It supports only technical users to write test scripts

B. It allows both technical and non-technical people to understand and contribute to test scenarios

C. It generates random test data for performance testing

D. It compiles Java code to create test cases

Answer: B

https://live.masaischool.com/embed/video/f55f6134-b147-4705-b03b-b87b5ce955c7
45:50

Assignment:
https://assess.masaischool.com/test?token=DiBPxHEpYSLCtNWgMjNmogRGuTnNLhQDKxralHSdbaxYOnqAZFEMMzgNZJNQOPLagyyacPUGxAMcNnzQdnQOEkblyLKZOgBebhph