

Boss Bhandari  
(Telecom NMS(Java))  
[bossbhandari@gmail.com](mailto:bossbhandari@gmail.com)

## ASSIGNMENT-1

**PROBLEM STATEMENT:** Create an infographic illustrating the Test-Driven Development (TDD) process. Highlight steps like writing tests before code, benefits such as bug reduction, and how it fosters software reliability.

### Solution:

- Test-Driven Development(TDD):
  - A process in which test case is written but it is referred as failed
  - So to pass that case we need to write relevant code
  - In this way the code is constantly iterated or updated to make the test case pass
  - Process initiates by adding test case
  - Then running it see it fails for that instance
  - Update the code to make it pass
  - Run test case again
  - Refract the code if needed
  - Repeat the same steps for further test cases
- TDD for Bug Reduction:
  - Since test case is written even before starting code to solve the problem, developer can resolve the coming bugs in the future product even before their creation or just after creation
  - Developers will always think new innovative measures in order to prevent failure of test cases
  - This functionality leads to bugs prevention or reduction as bugs are managed before and during writing the actual code
- How it fosters software reliability:
  - TDD fosters software reliability by clarity of requirements by the product, continuous validation, comprehensive test coverage, confident refactoring, documentation through the tests, as well as early bug detection.
  - On implementing this model for the testing purpose and development, the developer can get efficient, effective and desired results.

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## ASSIGNMENT-2

**PROBLEM STATEMENT:** Produce a comparative infographic of TDD, BDD, and FDD methodologies. Illustrate their unique approaches, benefits, and suitability for different software development contexts. Use visuals to enhance understanding.

**Solution:**

- Difference between TDD, BDD and FDD:

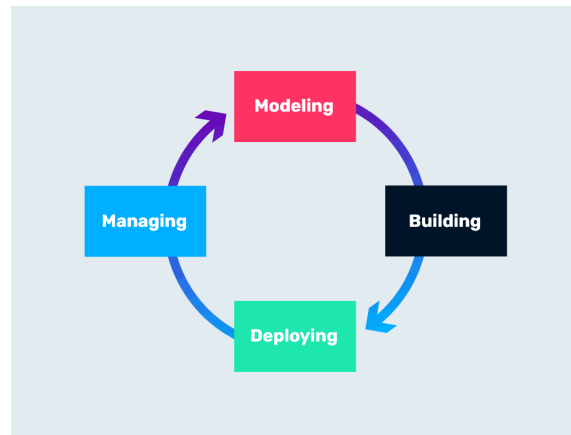
TDD	BDD	FDD
Suitable for Agile environments	Suitable for collaborative environments	Suitable for projects with well defined features
Useful for small to medium sized projects	Useful for complex projects	Useful for large scale projects
Works on projects with evolving requirements	Works on client facing applications	Works on projects having development teams with high skills set

- Benefits of TDD:
  - Bug detection before actual code
  - Code quality is improved
  - Continuous validation
  - Confidence in refracting
- Visual representation:



- Benefits of BDD:
  - Good communication between stakeholders and developers
  - Requirements decided are made clear
  - Consumer friendly environment is made

- Visual representation:



- Benefits of FDD:
  - Suitable for large scale projects
  - Useful for agile
  - scalable

- Visual representation:

