Assignment-5

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.

**TDD – Test-Driven Development**

* **Approach**:  
  Write automated tests *before* writing the code.  
  Focuses on small, testable units of functionality.
* **Process Flow**:  
  Write Test → Run (Fails) → Write Code → Run (Passes) → Refactor → Repeat
* **Key Benefits**:
  + Reduces bugs early
  + Improves code quality and modularity
  + Builds a reliable safety net for refactoring
* **Best Suited For**:  
  Backend-heavy systems, developer-driven teams, libraries/APIs

**BDD – Behavior-Driven Development**

* **Approach**:  
  Define behaviors in plain language (e.g., *Given-When-Then*) before development.  
  Bridges communication between developers, testers, and non-technical stakeholders.
* **Process Flow**:  
  Define Behavior → Automate Scenario → Write Code → Verify Behavior → Refactor
* **Key Benefits**:
  + Enhances team collaboration
  + Ensures requirements are clearly understood
  + Keeps development focused on business value
* **Best Suited For**:  
  Cross-functional teams, user-centric applications, Agile environments

**FDD – Feature-Driven Development**

* **Approach**:  
  Build software by planning and implementing features based on a domain model.  
  Emphasizes delivering small, client-valued functions in a structured way.
* **Process Flow**:  
  Develop Feature List → Plan by Feature → Design by Feature → Build Feature → Repeat
* **Key Benefits**:
  + Scales well in large teams and organizations
  + Organized, repeatable process
  + Strong alignment with business priorities
* **Best Suited For**:  
  Large-scale enterprise systems with defined feature sets