

## Assignment-2

### **1. Test-Driven Development (TDD):**

**Approach:** Write tests before writing code. Red-Green-Refactor cycle: Write a failing test (Red), make it pass (Green), refactor code (Refactor).

**Benefits:** Early bug detection, improved code quality, modular design, faster development cycles.

**Suitability:** Ideal for Agile environments, small teams, projects with clear requirements, and when unit testing is crucial.

### **2. Behavior-Driven Development (BDD):**

**Approach:** Focuses on behavior rather than implementation details. Uses a ubiquitous language to describe system behavior in scenarios.

**Benefits:** Improved collaboration between stakeholders, clearer understanding of requirements, automated acceptance testing.

**Suitability:** Well-suited for complex systems, projects with changing requirements, large teams, and fostering communication between technical and non-technical stakeholders.

### **3. Feature-Driven Development (FDD):**

**Approach:** Breaks down development into feature increments. Emphasizes domain object modeling, design by feature, and iterative development.

**Benefits:** Scalability, flexibility, emphasis on domain modeling, clear visibility of progress, efficient resource allocation.

**Suitability:** Suitable for large-scale projects, teams with varying skill levels, projects requiring rapid development and delivery, and when a structured process is needed.