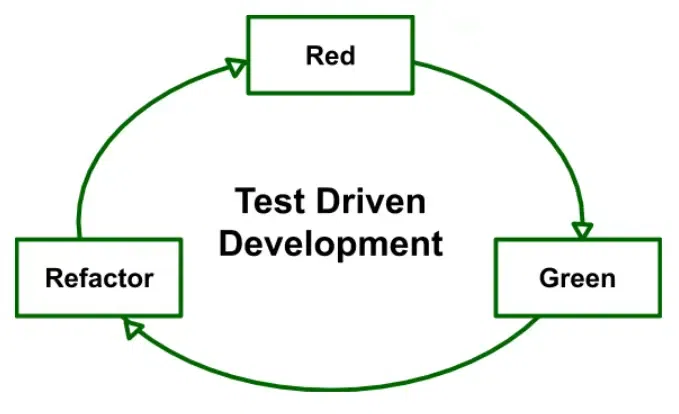
**Assignment No 3 [1]**

**Question:** 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) is a software development methodology that emphasizes writing tests before writing the actual code. The main idea behind TDD is to create a feedback loop that guides the development process and helps ensure the reliability and correctness of the software being developed. TDD follows a cyclical pattern, often referred to as the “Red-Green-Refactor” cycle, which consists of the following steps:

**Diagram:**

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1. **Red:** In this phase, you start by writing a test that defines the desired behaviour or functionality of a specific piece of code. Initially, this test will fail because the corresponding code hasn’t been written yet. This failing test is often referred to as a “red” test.
2. **Green:** Once you have a failing test, your next step is to write the minimum amount of code necessary to make the test pass. This code may not be perfect or efficient; the goal is to satisfy the test’s conditions and make it pass. When the test passes, it becomes a “green” test, indicating that the desired functionality has been implemented.
3. **Refactor:** After making the test pass, you can improve the code’s design, structure, and efficiency while keeping the test green. Refactoring involves making changes to the code without changing its external behavior. The tests act as a safety net, helping you catch unintended side effects of your changes.