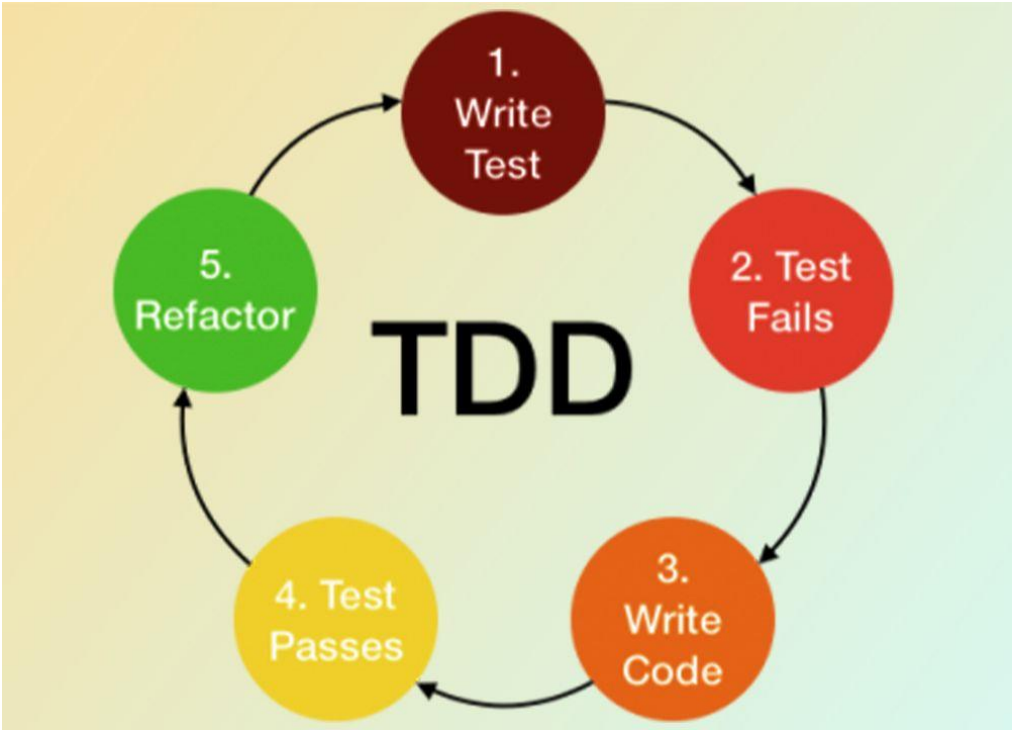
Assignment 1: Create an infographic illustrating the Test-Driven Development (TDD) process. Highlight steps like writing tests before code, benefits such as bug reduction, and how it fosters software reliability.



Test-Driven Development (TDD) Overview

Definition: Test-Driven Development (TDD) is a software development approach where tests are written before code implementation.

Process:

1. **Write a Test:**
   - Develop a failing test that defines the desired functionality or behavior.
2. **Run the Test:**
   - Validate the test fails as expected (red phase).
3. **Write the Code:**
   - Implement the minimum code necessary to pass the test.
4. **Run Tests:**
   - Execute all tests to ensure new code passes without breaking existing functionality (green phase).
5. **Refactor Code:**
   - Improve code structure without changing its behavior, ensuring all tests still pass (refactor phase).

Benefits:

- **Bug Reduction:** Identifies and fixes bugs early in development.
- **Improved Design:** Promotes modular, flexible code architecture.
- **Software Reliability:** Enhances code quality and reduces regression risks.

Impact on Software Reliability:

- **Continuous Validation:** Ensures each new feature or change meets expected behaviours through automated tests.
- **Iterative Improvement:** Facilitates incremental enhancements without compromising existing functionality.

Test-Driven Development (TDD) is a disciplined approach that enhances software quality and reliability by prioritizing automated tests throughout the development lifecycle.