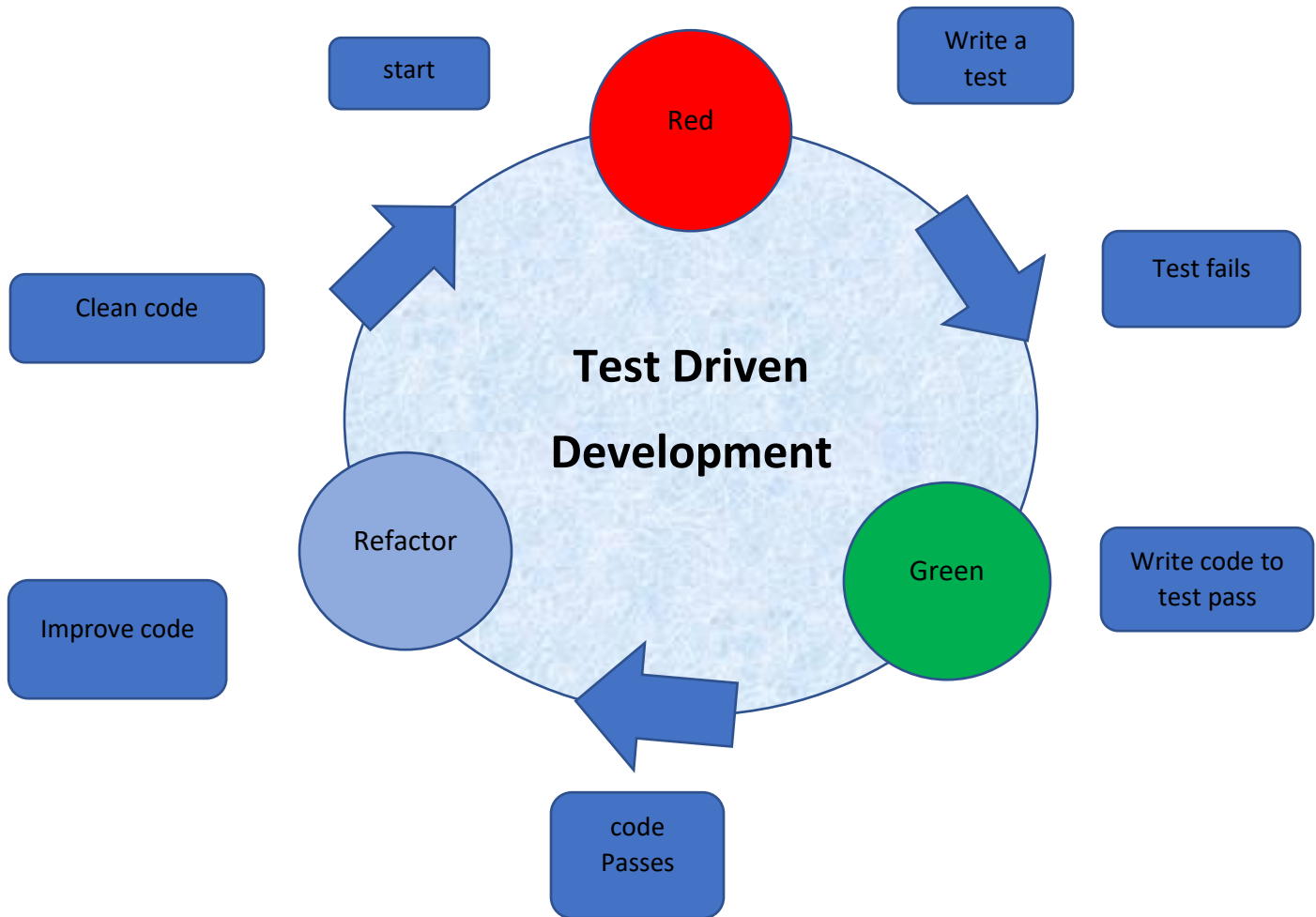


Assignment 1:- Create an infographic illustrating the Test-Driven Development (TDD) process. Highlight steps like writing tests before code, benefits such as bug reduction, and how it fosters software reliability.



Write Test:

- Developers write a failing test case that defines a small unit of desired functionality.

Run Test:

- Execute the test to confirm that it fails, as expected, indicating that the feature is not yet implemented.

Write Code:

- Developers write the minimum code necessary to pass the failing test case.

Run Test Again:

- Re-run the test suite. If all tests pass, it confirms the new code has been successfully integrated.

Refactor Code:

- Refactor the code to improve its design while keeping all tests passing.

Benefits of TDD:

Bug Reduction:

- By writing tests before code, developers catch bugs early in the development process, reducing the likelihood of introducing defects.

Improved Software Reliability:

- TDD fosters the creation of more reliable software by ensuring that each piece of code has corresponding tests to validate its functionality.

Incremental Development:

- TDD encourages incremental development, where functionality is added in small, testable increments, leading to more manageable and maintainable codebases.

Better Code Design:

- TDD promotes better code design as developers focus on writing code that is modular, loosely coupled, and adheres to SOLID principles to facilitate testing.