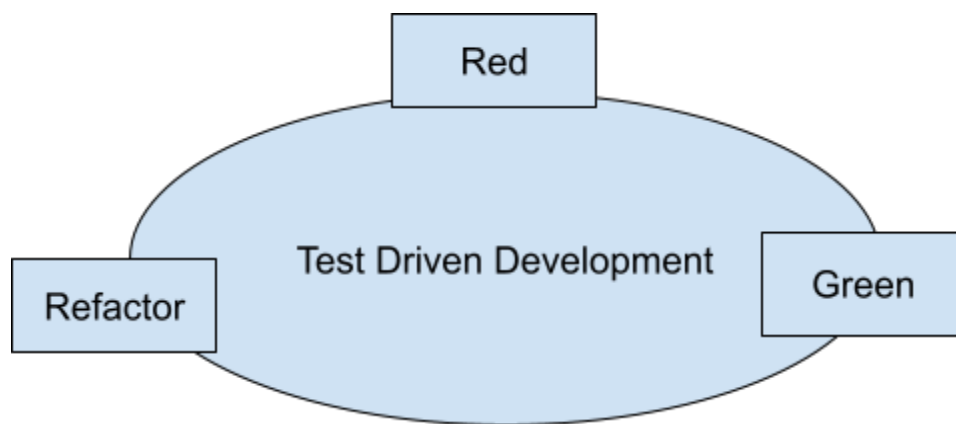**Assignment 1:** Create an infographic illustrating the Test-Driven Development (TDD) process. Highlight steps like writing tests before code, benefits such as bug reduction, and how it fosters software reliability.

**Test Driven Development** is the process in which test cases are written before the code that validates those cases. It depends on repetition of a very short development cycle. Test driven Development is a technique in which automated Unit test are used to drive the design and free decoupling of dependency.



In above  diagram:

**Red** - Create a test case and make it fail.
**Green** - Create a test case pass by any means.
**Refactor** - Change the code to remove duplicates.

> ➢ Unit tests provide constant feedback about the functions.
> ➢ Quality of design increases which further helps in proper maintenance.
> ➢ Test driven development acts as a safety net against the bugs.
> ➢ TDD ensures that your application actually meets requirements defined for it
> ➢ TDD has a very short development lifecycle.

**Advantages:**

- TDD can enable faster innovation and continues the delivery
- The result code is easy to test.
- TDD is flexible and extensible

**Disadvantages:**

- Forget to test the code frequently.
- Write too many tests at once.
- Fails to maintain the tests.