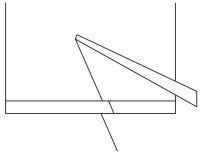
Bring ideas to life
VIA University College



Introduction to Test Driven Development

ESW1

At the end of this session, you should

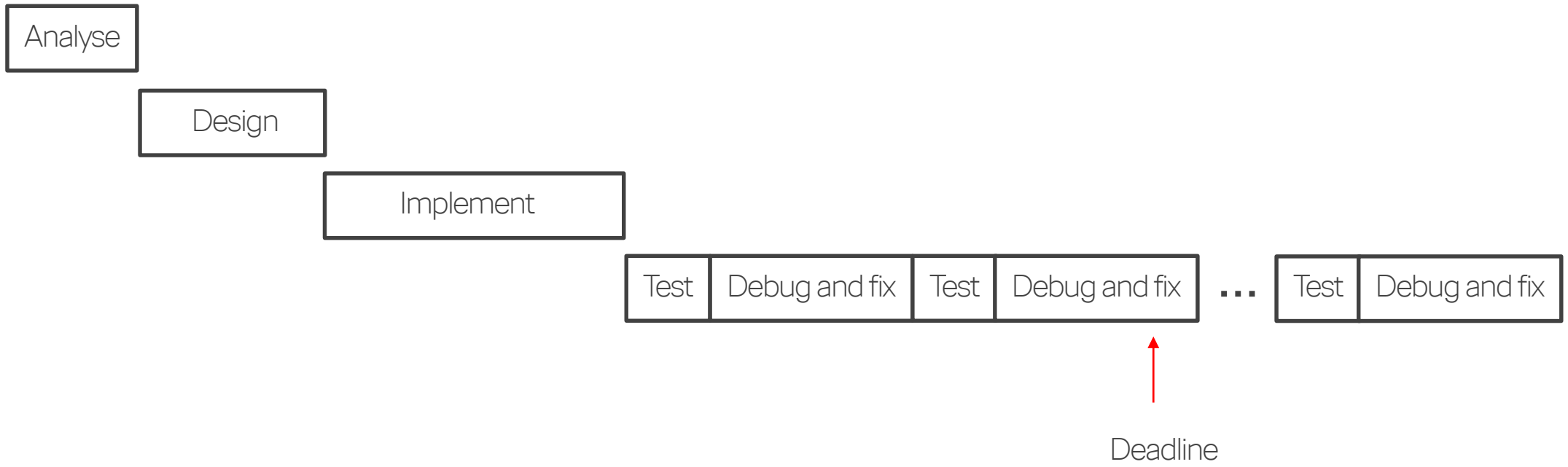
- Understand the Test Driven Development cycle
- Be able Unit Test C-programs
- Produce code of higher quality

What is Test Driven Development?

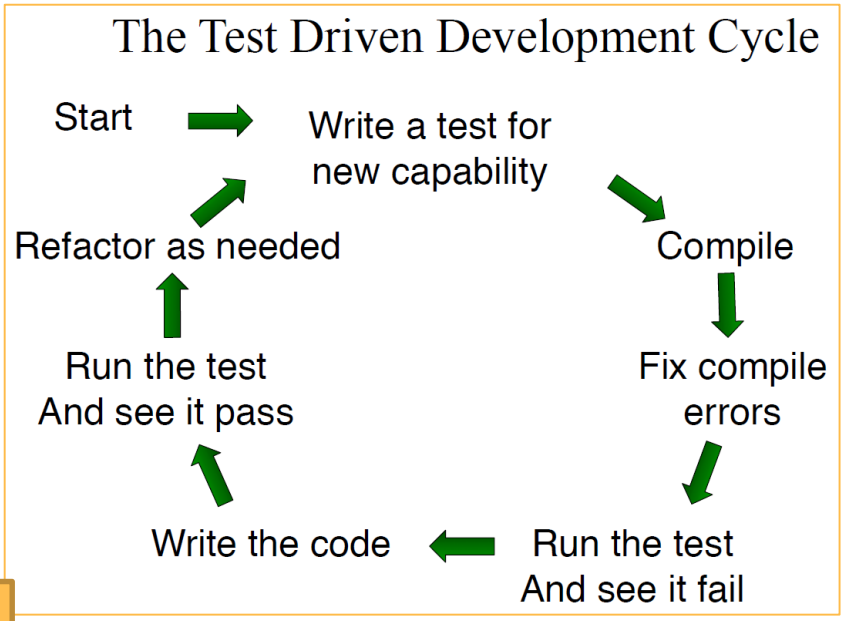
- A development process with ultra short iterations
- A method to ensure that only code that has value is written
- A satisfying way of programming, as progression is quick and results are clear
- A method to ensure good quality
- A method to ensures that requirements are met and tested

Typical non-TDD development cycle

- **Known as Debug Later approach**



Typical TDD development cycle



ref: James W Grenning

Deadline

Software quality

- Only small increments of functionality at a time
  - Simplifies debugging
- Test case is written for new functionality before code
  - Ensures that the programmer understand the problem
- Test case is run before coding
  - Checks if test case will fail in case of error
- Simplest possible solution are the starting point. Iterate to needed solution
  - Reduces complexity
- Automated tests are re-run with every increment of functionality
  - Bugs are discovered immediately
- Broken tests are not allowed. Must be fixed.

Exercise

- From *Itslearning*, download the document

  “Simple Use of CppUTest in Visual Studio 2017.pdf”
  and
  “CppUTest.7z”

- Follow the guide and install the CppUTest framework.

Demo

Solve Exercise 3.3, using Test Driven Development.

We will do it together in class, but you can also find a guide on *Itslearning*, if you later want to refresh the steps ☺

"Test Driven Development - example.pdf"