

Unit Tests

Feedback is available for your pairs project for last week. Simply go to your team's repo and do a ***git pull origin main***, and you should have a text file called InstructorNotes.txt with my comments.

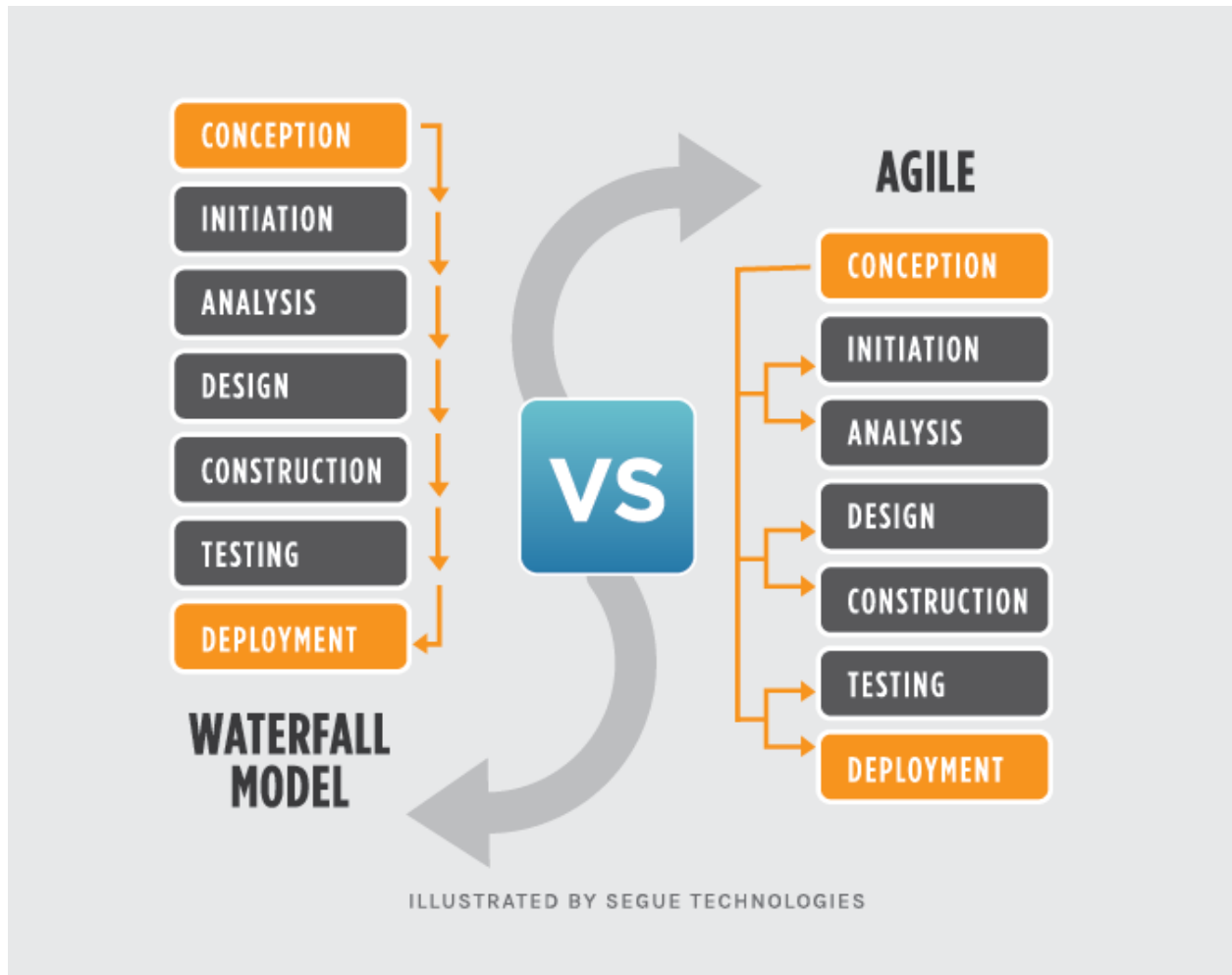
Software Development Life Cycle

- Planning
- Designing
- Developing
- Testing
- Maintenance

Waterfall Model methodology is also known as Linear Sequential Life Cycle Model.

Waterfall Model followed in the sequential order, and so project development team only moves to next phase of development or testing if the previous step completed successfully.

Agile methodology is a practice that helps continuous iteration of development and testing in the software development process. In this model, development and testing activities are concurrent, unlike the Waterfall model. This process allows more communication between customers, developers, managers, and testers.



Advantages of Waterfall Model:

- It is one the easiest model to manage. Because of its nature, each phase has specific deliverables and a review process.
- It works well for smaller size projects where requirements are easily understandable.
- Faster delivery of the project
- Process and results are well documented.
- Easily adaptable method for shifting teams
- This project management methodology is beneficial to manage dependencies.

Advantages of the Agile Model:

- It is client-focused. The client is continuously involved during every stage.
- Agile teams work in tandem, so there are always other eyes on the product, which can help to produce better code and better tests.
- Agile software development method assures that quality of the development is maintained
- The process is completely based on the incremental progress. Therefore, the client and team know exactly what is complete and what is not. This reduces risk in the development process.

Limitations of Waterfall Model:

- It is not an ideal model for a large size project
- If the requirement is not clear at the beginning, it is a less effective method.
- Very difficult to move back to make changes in the previous phases.
- The testing process starts once development is over. Hence, it has high chances of bugs to be found later in development where they are expensive to fix.

Limitations of Agile Model

- It is not a useful method for small development projects.
- It requires an expert to take important decisions in the meeting.
- Cost of implementing an agile method is little more compared to other development methodologies.
- The project can easily go off track if the project manager is not clear what outcome he/she wants.

Edge Cases

Looking for boundaries. Looking for where a condition takes one or the other branch.

```
If (i > 25)
    Do something
Else if (i < 25)
    Do other thing
```

Zero is always an edge case

Null is almost always an edge case

Empty stuff is almost an edge

Business Logic

Unit tests

- Fast
- Never ask for input
- Focused solely on the method or class in question
- Repeatable with exact same results

@Before

- Any variables set up in @Before must be class variables, not local.
- Make sure class variable is cleaned up before later tests
- Every class variable MUST be set in @Before