

IN5140

Smart processes and agile methods in Software Engineering

Group session

Agenda - you decide!

1. Repetition - quality assurance
2. Delivery 1
3. You choose! Work on project,
4. You choose! Work on project,

Quality Assurance

Figures are from this week's lecture

What is quality?

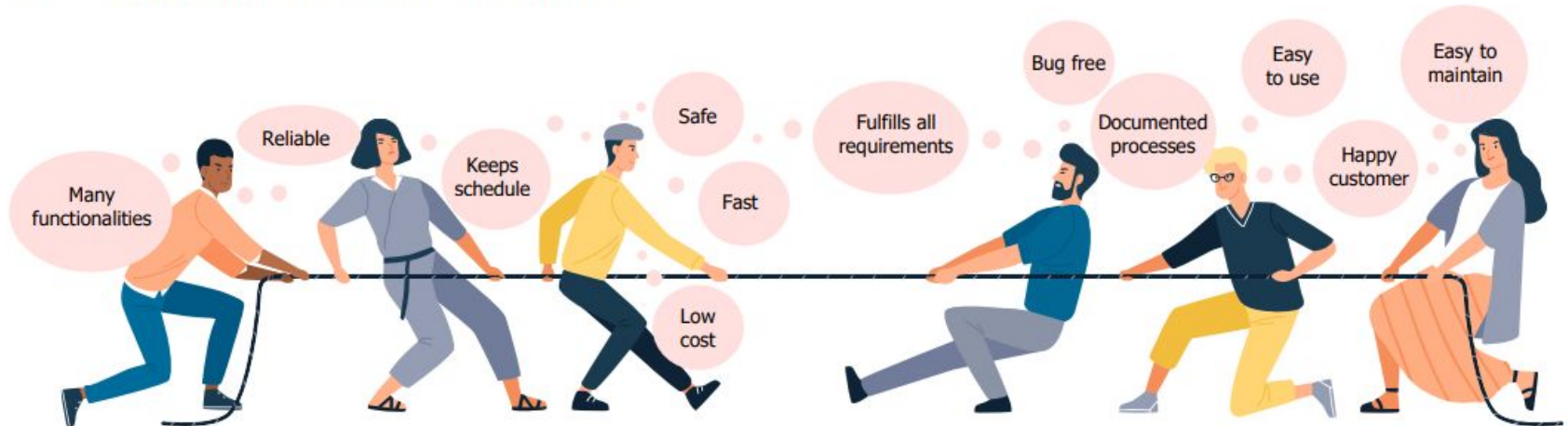
Possible definitions



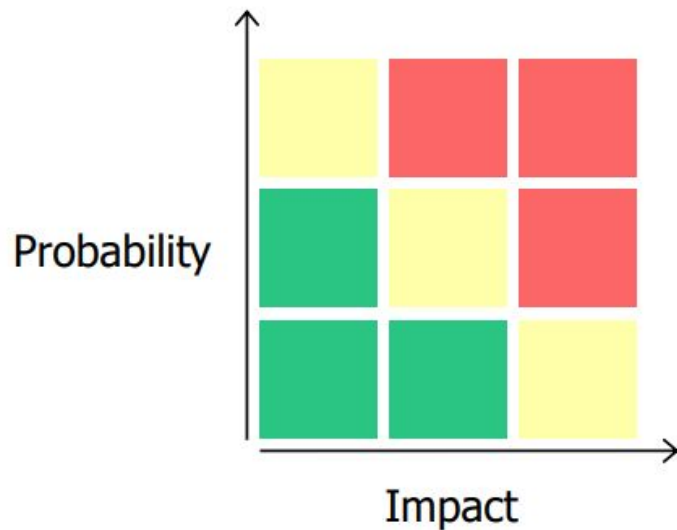
Garvin's Five Definitions

- 1 The transcendental perspective:**
Quality is something you feel or that we learn to recognize through experience
- 2 The product perspective:**
Quality is precise and measurable
- 3 The user perspective:**
Quality is defined by In terms of fitness for use

- 4 The producer perspective:**
Quality is the degree a product/service shows conformity with a project or specification
- 5 The value perspective:**
Quality is defined in terms of cost and prices.
Have you recieved what you paid for?

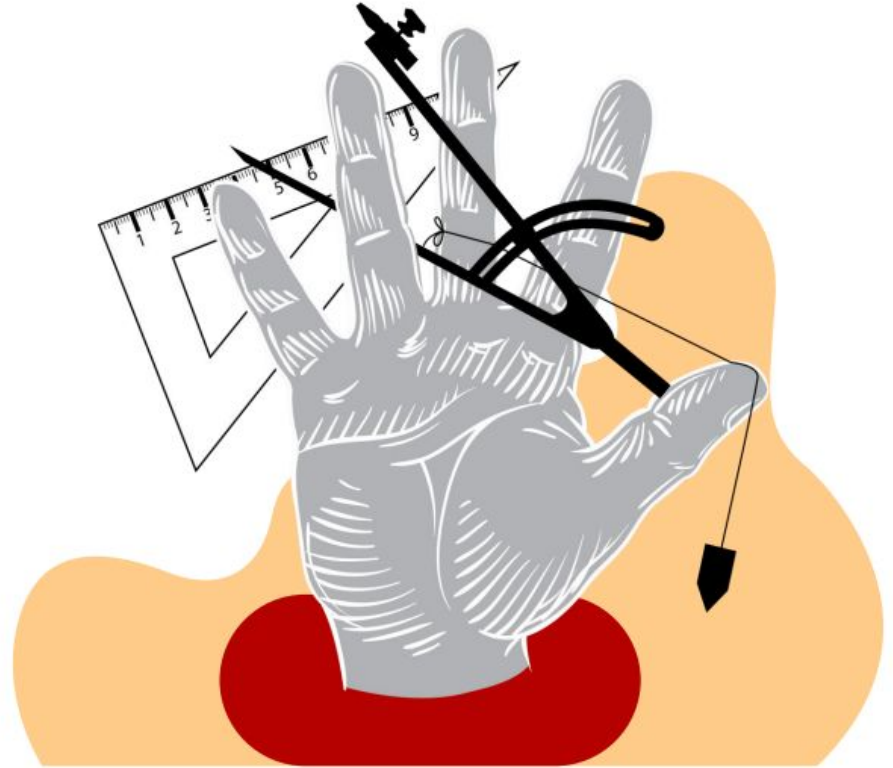


Strategy



What to measure?

- Static testing
- Dynamic testing
- Code Reviews
- Code Coverage
- Deployment times
- Number of tests going green
- Up-time
- Performance
- Number of defects in production



Quality Attributes

Functionality

Reliability

Performance

Compatibility

User experience

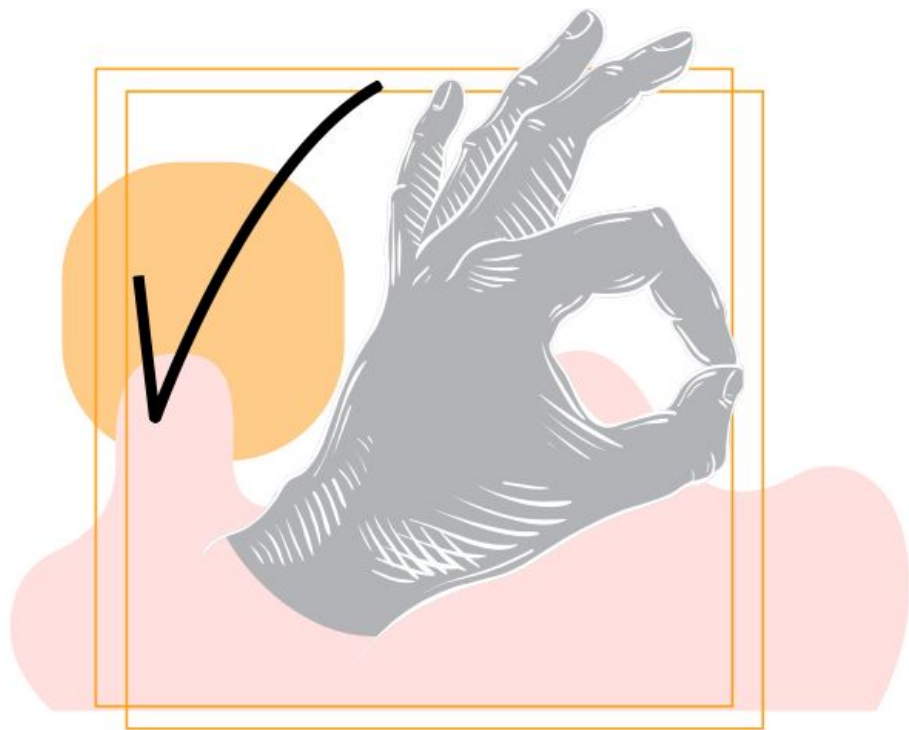
Security

Maintainability

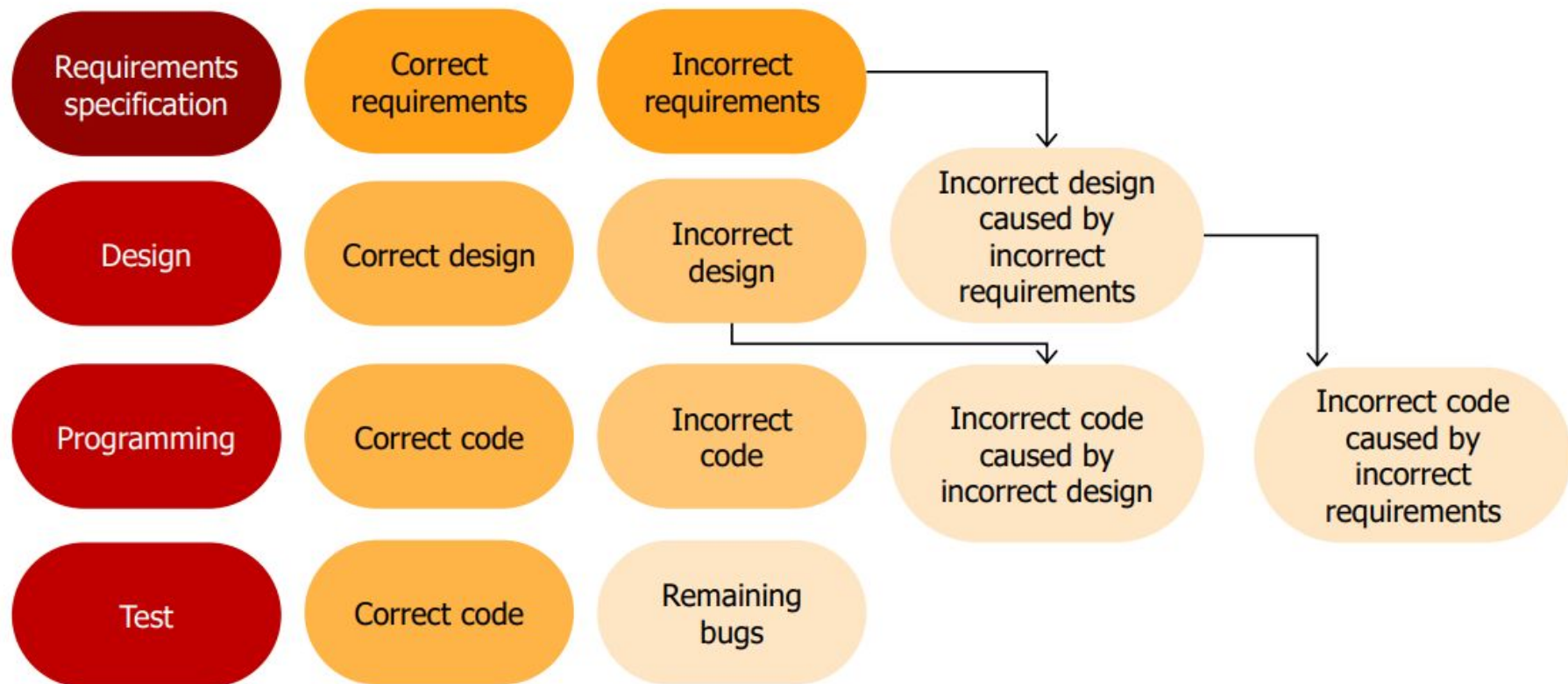
Portability

Documentation

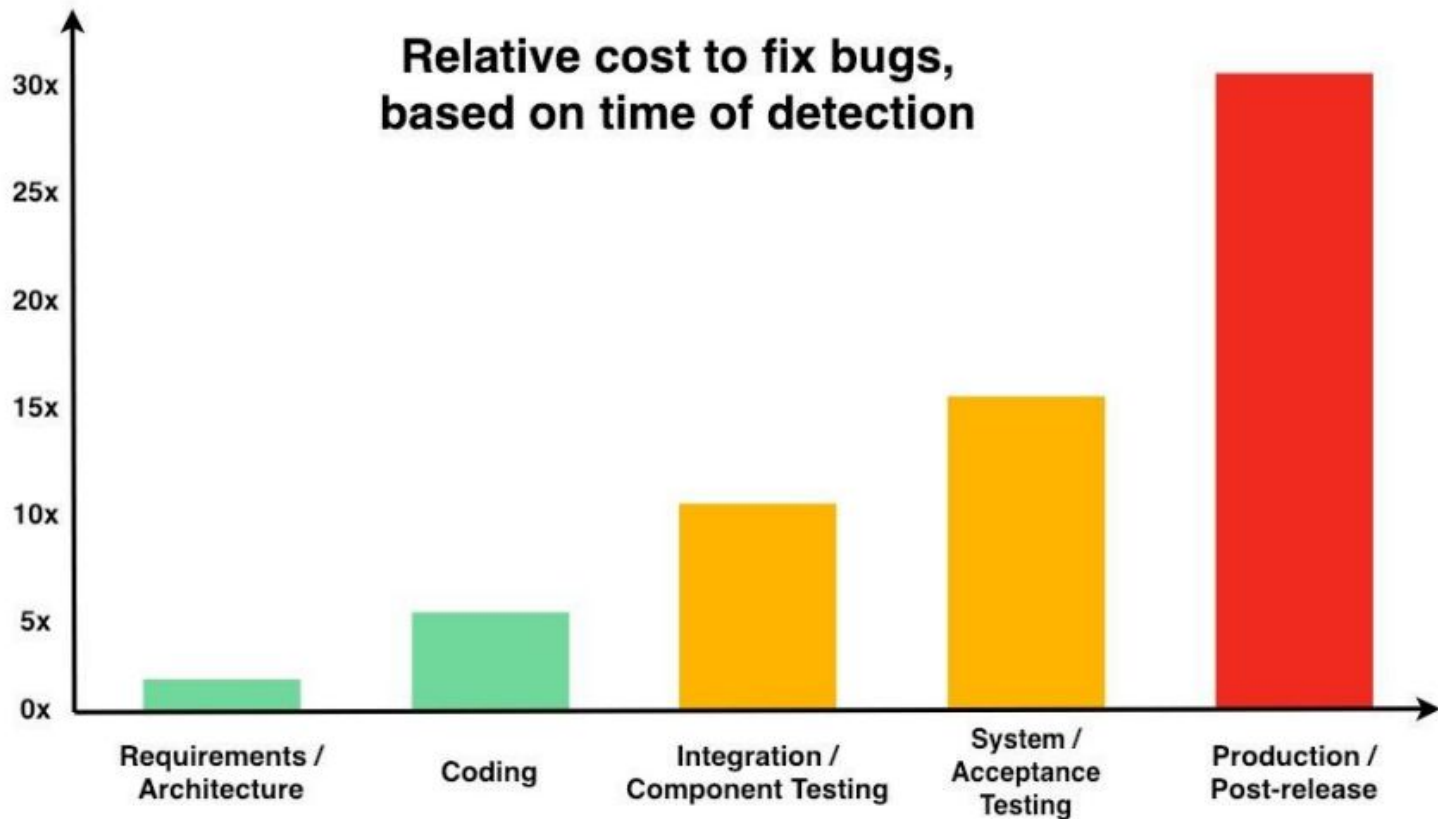
Compliance



Where do bugs occur?

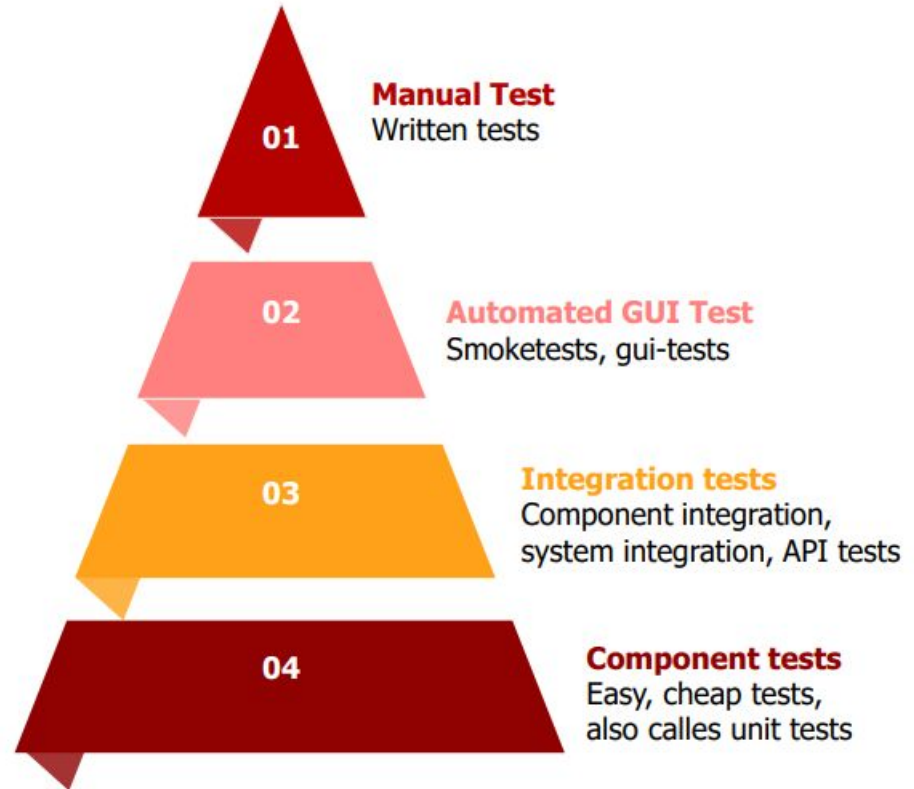


Cost of bugs

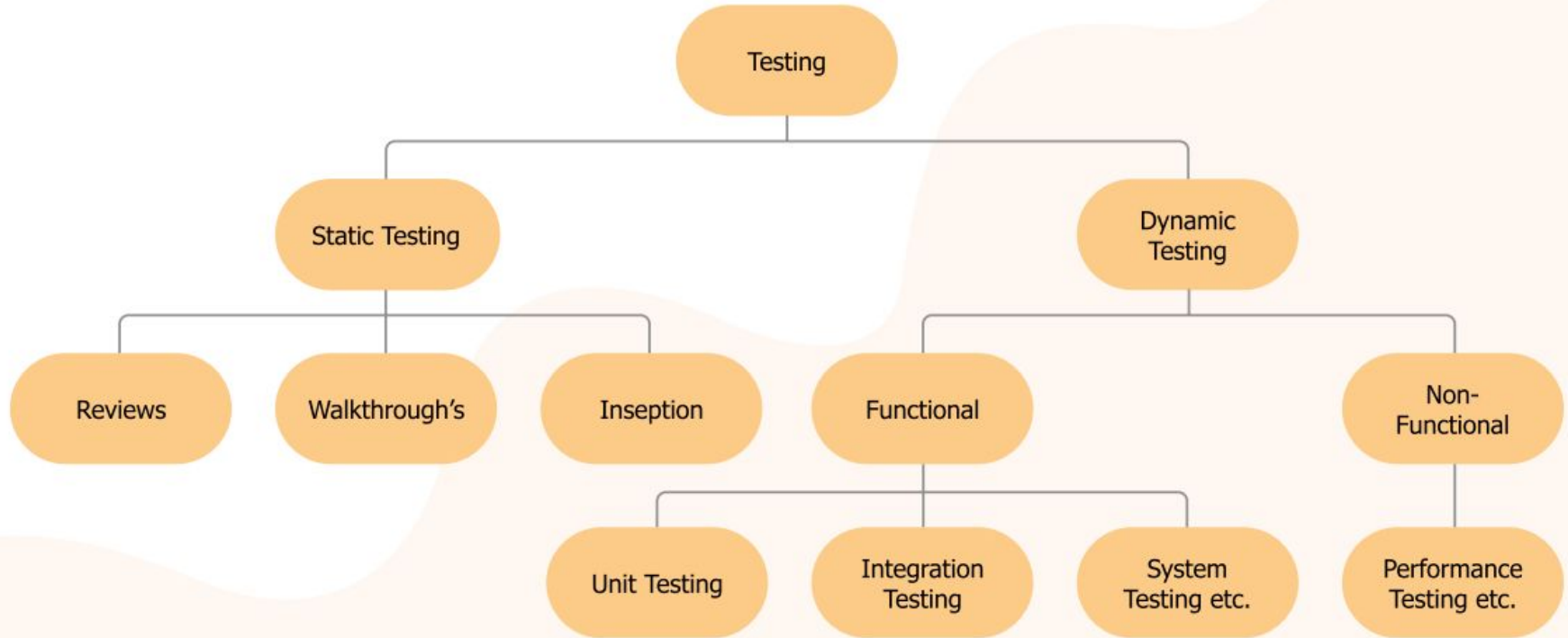


Testing pyramid

- Component test tests components, classes etc.
- Integration test tests integrations between components and systems
- Api-test tests that services do what they are supposed to
 - E.g. rest/soap-requests
- GUI-test tests that buttons do what is expected
 - E.g selenium, cypress
- The more the merrier
- All levels can be done by developers



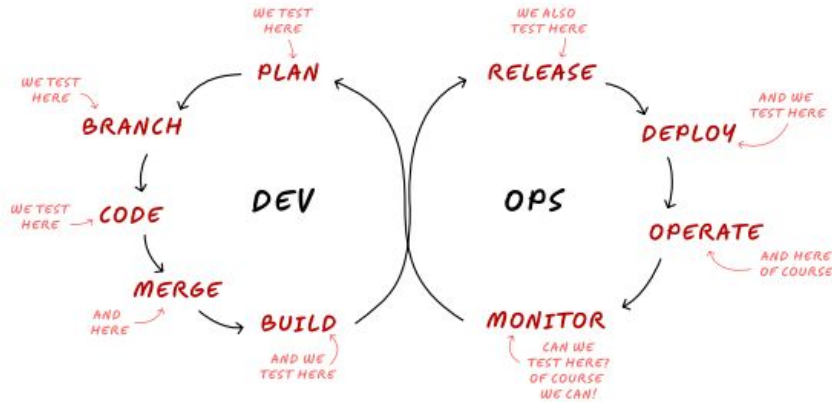
Static and dynamic testing



What is the idea of DevOps? Why DevOps?



Devops and testing



AGILE VS. DEVOPS

AGILE

Test as early and as often as possible



Automate testing as much as possible



Continuous integration and testing is a step forward



Potentially shippable code at the end of a sprint



DEVOPS

Test continuously



Automate almost everything



Continuous integration and testing is mandatory



Potentially shippable code following every integration



Project Report Help-session



if you need any help :)