



W2BUSINESS

QA Academy

Wroclaw - Spring 2018

Chapter “Introduction to IT”

Lectors

Svitlana Samko

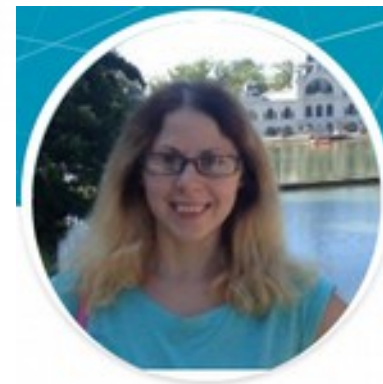
<https://www.linkedin.com/in/svitlana-samko-b87532114/>

Senior Developer in Test

over 10 years web development practice

over 10 delivered software projects for middle and large business

My most beneficial skill: *I like to learn business from the inside. Only so one can be sure that we build right product in the right way at any stage of development process.*



Andrii Stepura

<https://www.linkedin.com/in/andriistepura/>

Senior Quality Assurance Automation Engineer

over 14 years web development practice

over 300 delivered web projects as PO / Dev / Analyst / QA

My most beneficial skill: *Imagination to think like a stakeholder. Every piece of software starts from an idea. The first written code lines are just a half of the delivery of that idea.*



Definition of done

1

Introduction to IT:

- Introduction to IT in basic terms
- Software theory
 - SW goals, SW types, benefits
 - Software development life cycle, models
- Fundamentals of Testing



Our goal

- Goal (in mind)
- Opinion
- Knowledge
- Requirements
- Resources
- Sources



Introduction to IT in basic terms

What do you know about...

Goal



Goal

A goal is an idea of the future or desired result that a person or a group of people envisions, plans and commits to achieve.



Introduction to IT in basic terms

What do you know about...

Opinion?



Opinion

In general, an opinion is a judgment, viewpoint, or statement that is not conclusive. It may deal with subjective matters in which there is no conclusive finding, or it may deal with facts which are sought to be disputed by the logical fallacy that one is entitled to their opinions.



Introduction to IT in basic terms

What do you know about...

Knowledge



Knowledge

is a familiarity, awareness,
or understanding of
someone or something



Introduction to IT in basic terms

What do you know about...

Requirements



Requirements

singular documented physical or functional need that a particular design, product or process aims to satisfy.

It is commonly used in a formal sense in engineering design, including for example In SW engineering...



Introduction to IT in basic terms

What do you know about...

Resources



What do you know about...

Resources

A resource is a source or supply from which a benefit is produced.

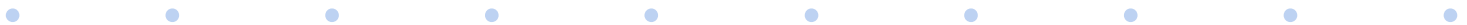
Resources can be broadly classified on bases upon their availability they are renewable and non renewable resources.

They can also be classified as actual and potential on the basis of level of development and use, on the basis of origin they can be classified as biotic and abiotic, and in the base of their distribution as ubiquitous and localized.

Software theory

What do you know about...

Software



What do you know about...

Software

Computer software, or simply software, is a part of a computer system that consists of data or computer instructions, in contrast to the physical hardware from which the system is built. In computer science and software engineering, computer software is all information processed by computer systems, programs and data.



Software theory

What do you know about...

Software
goals



Software goals

//[TODO] think about
software goals for you



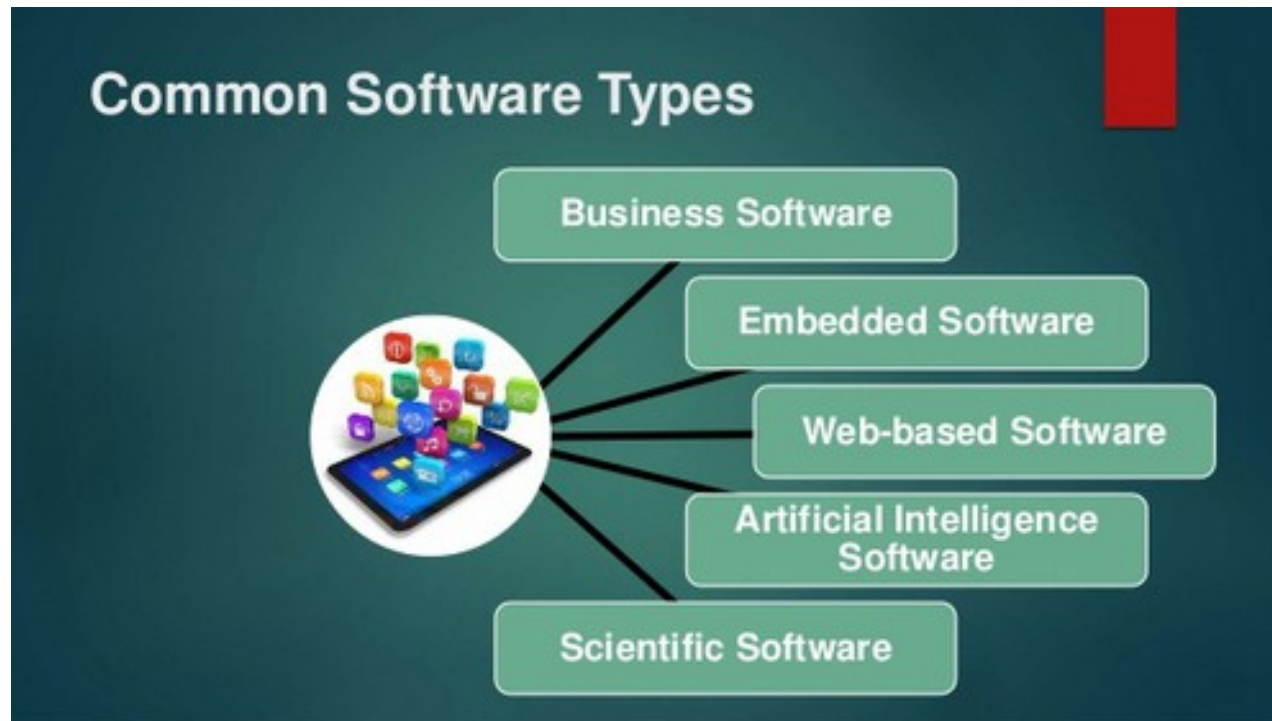
Software types

Which software types do you know ...

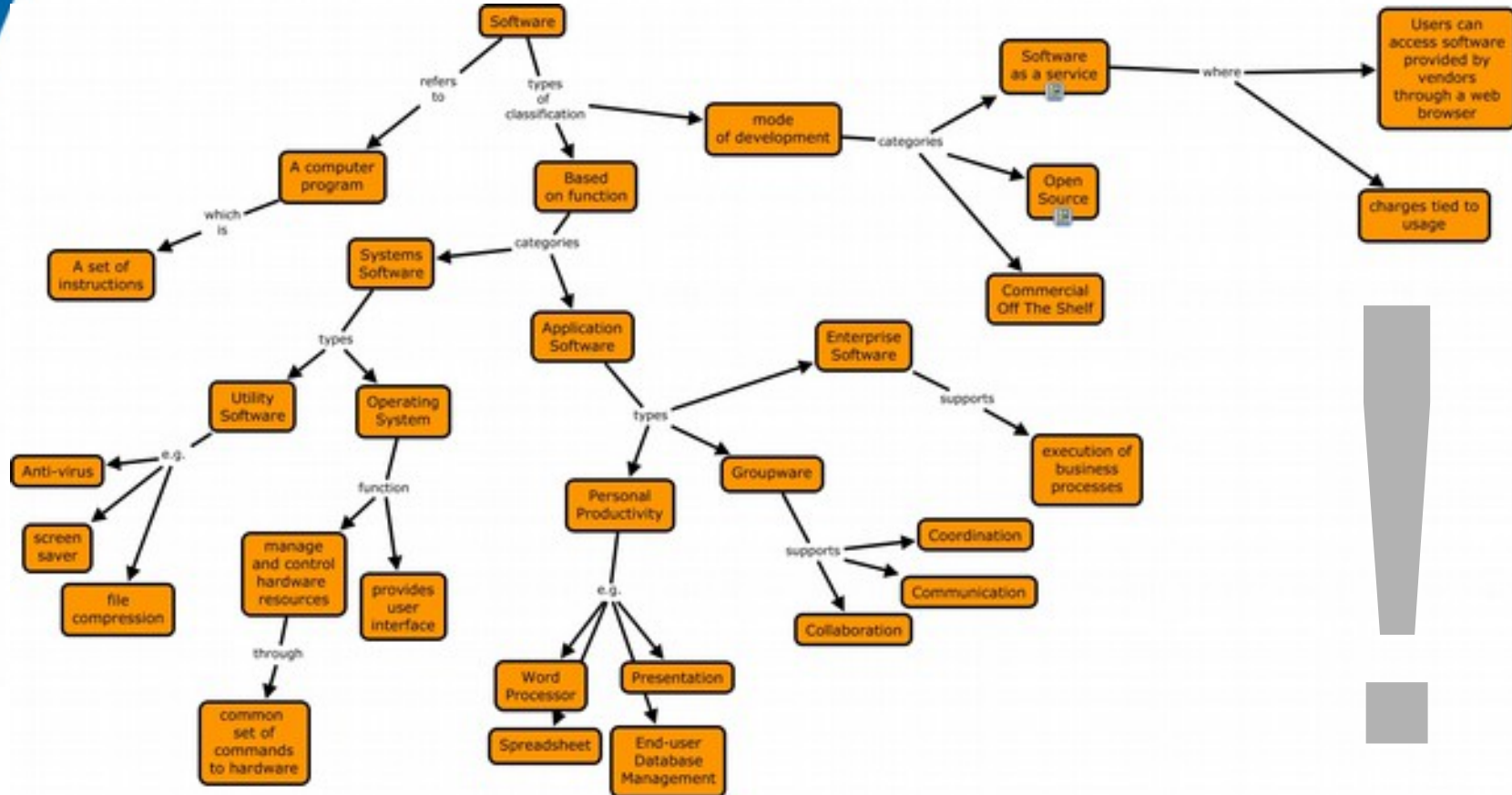
Software
types



Software types



Software types



Software benefits

Which software benefits we receive ...

Software
benefits



Software benefits

//[TODO] think about
software benefits for you



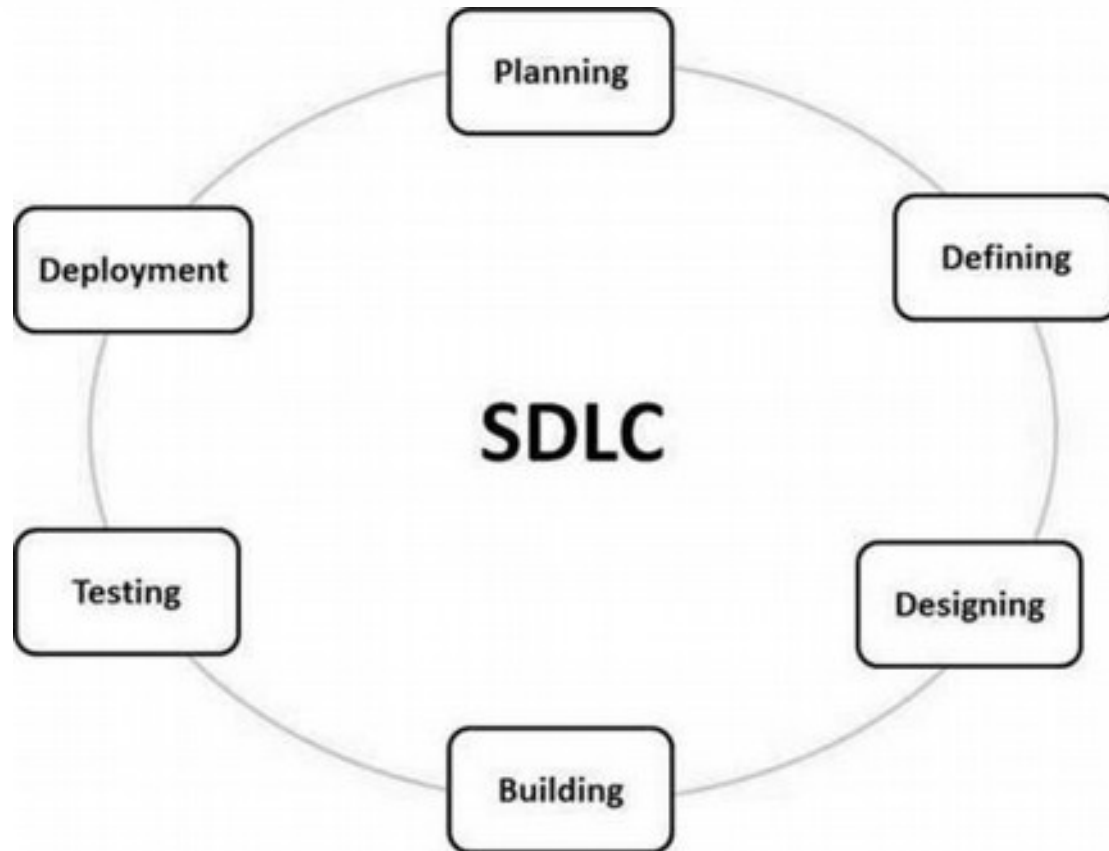
Software development life cycle

What do you know about software development life cycle ...

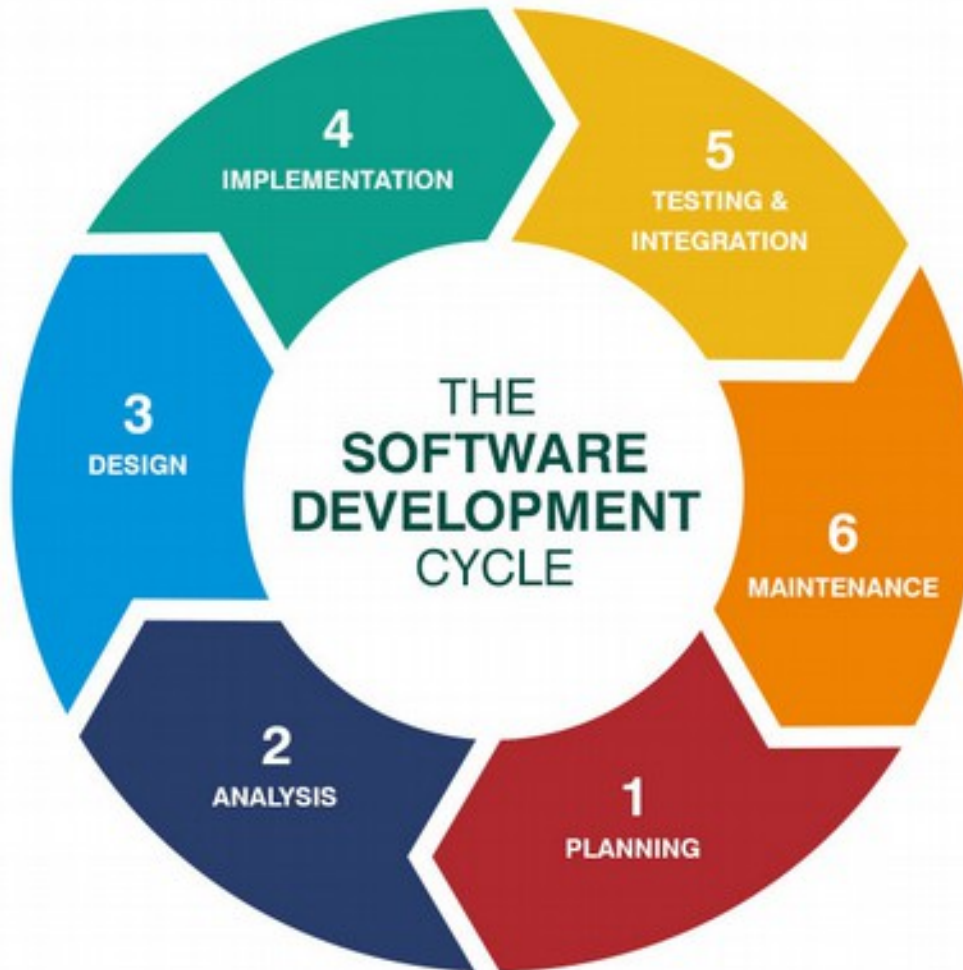
Software
development life
cycle [SDLC]



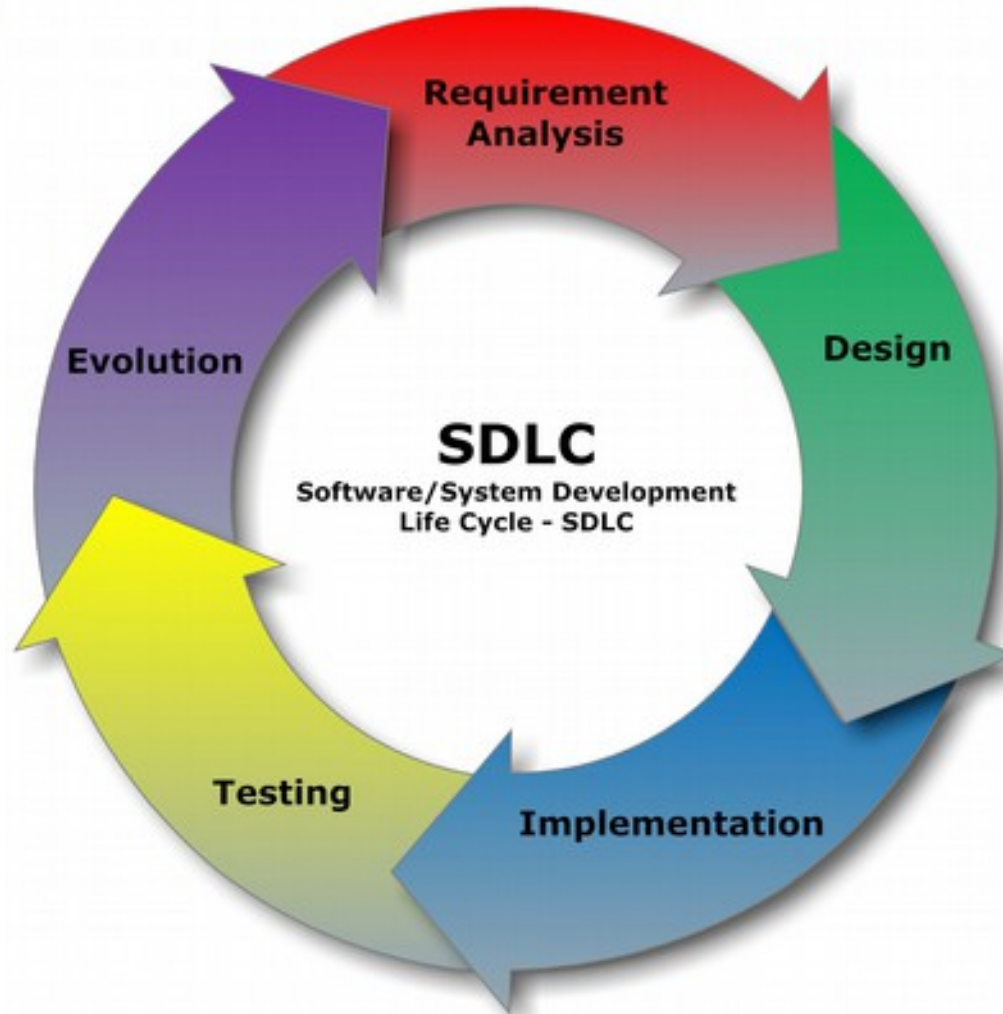
Software SDLC



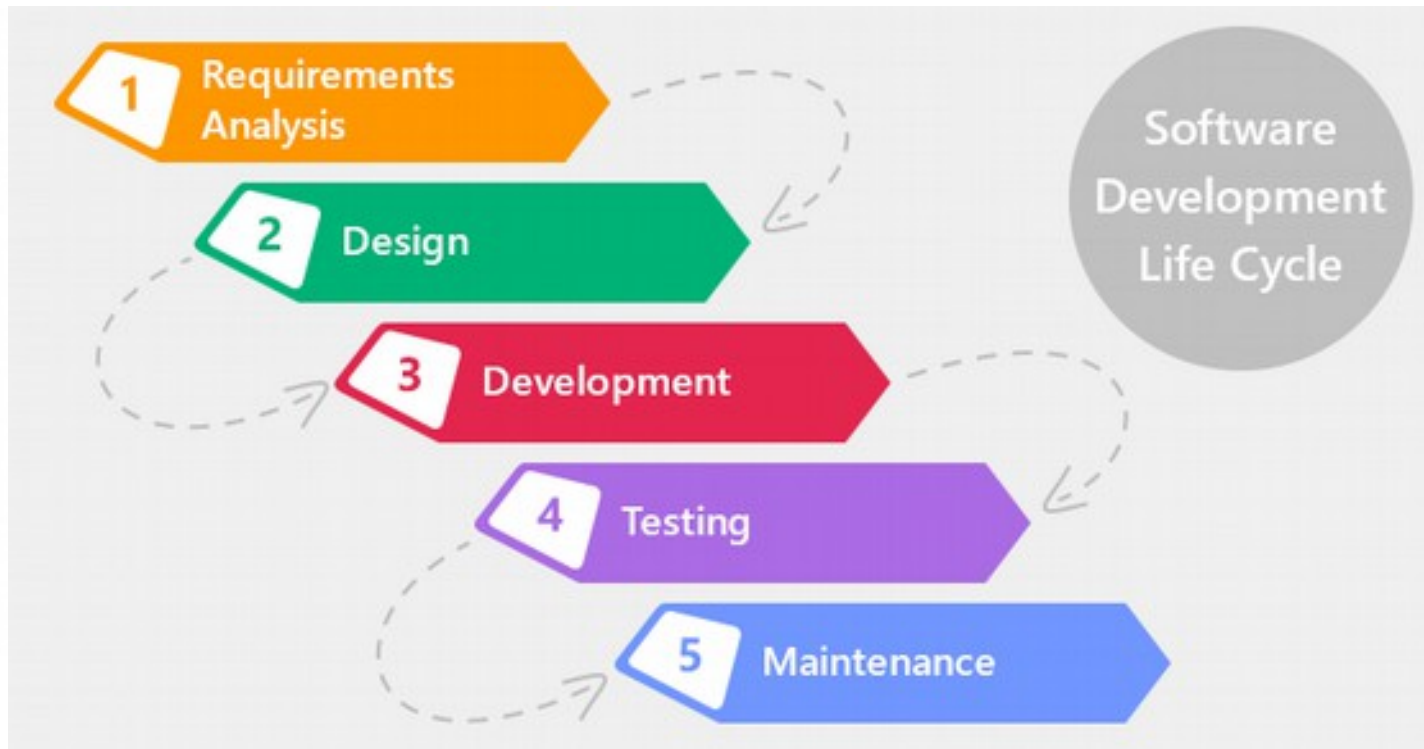
Software SDLC



Software SDLC



Software SDLC

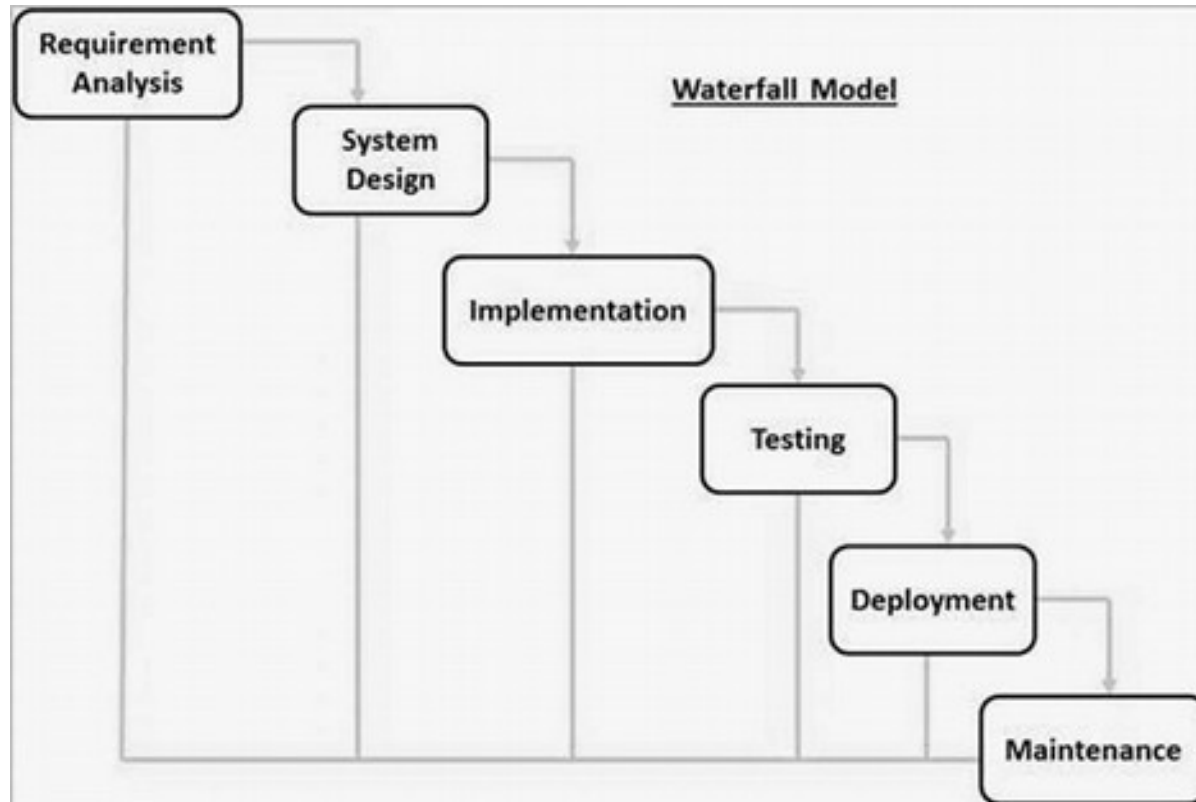


Software SDLC models

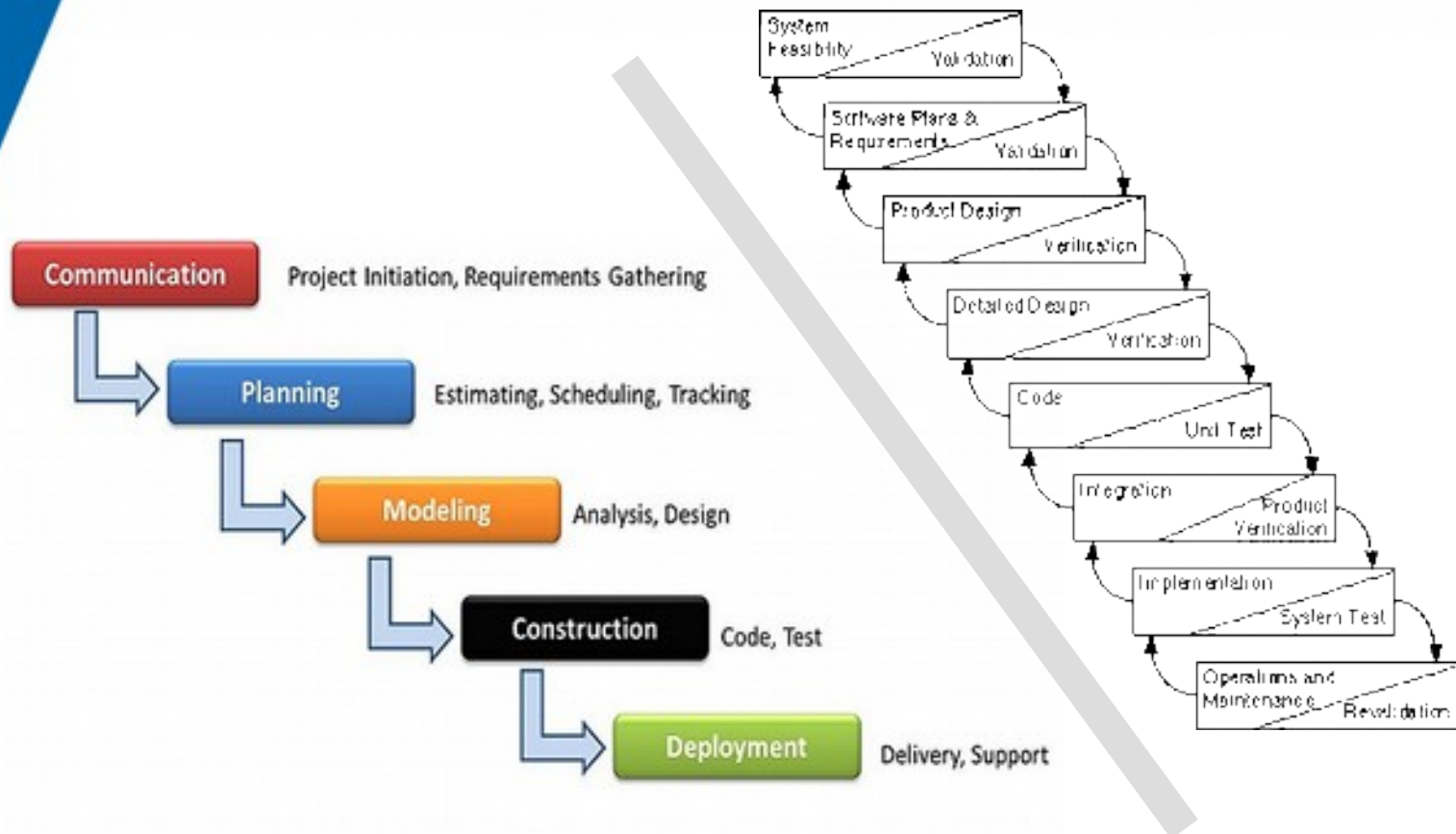
- Waterfall Model
- V-Model
- Iterative Model
- Spiral Model
- Agile Model
- RAD Model



SDLC Waterfall model

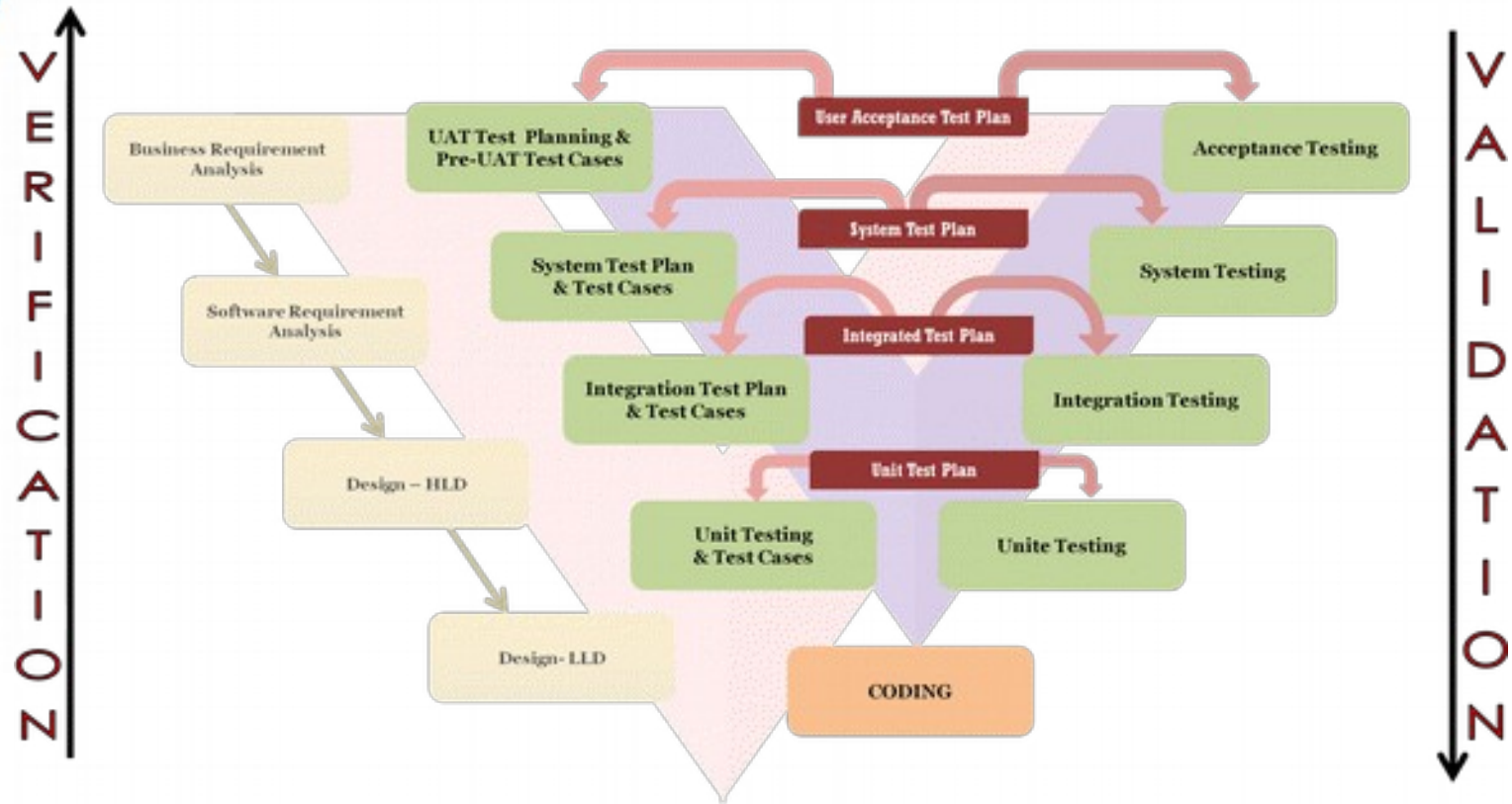


SDLC Waterfall model

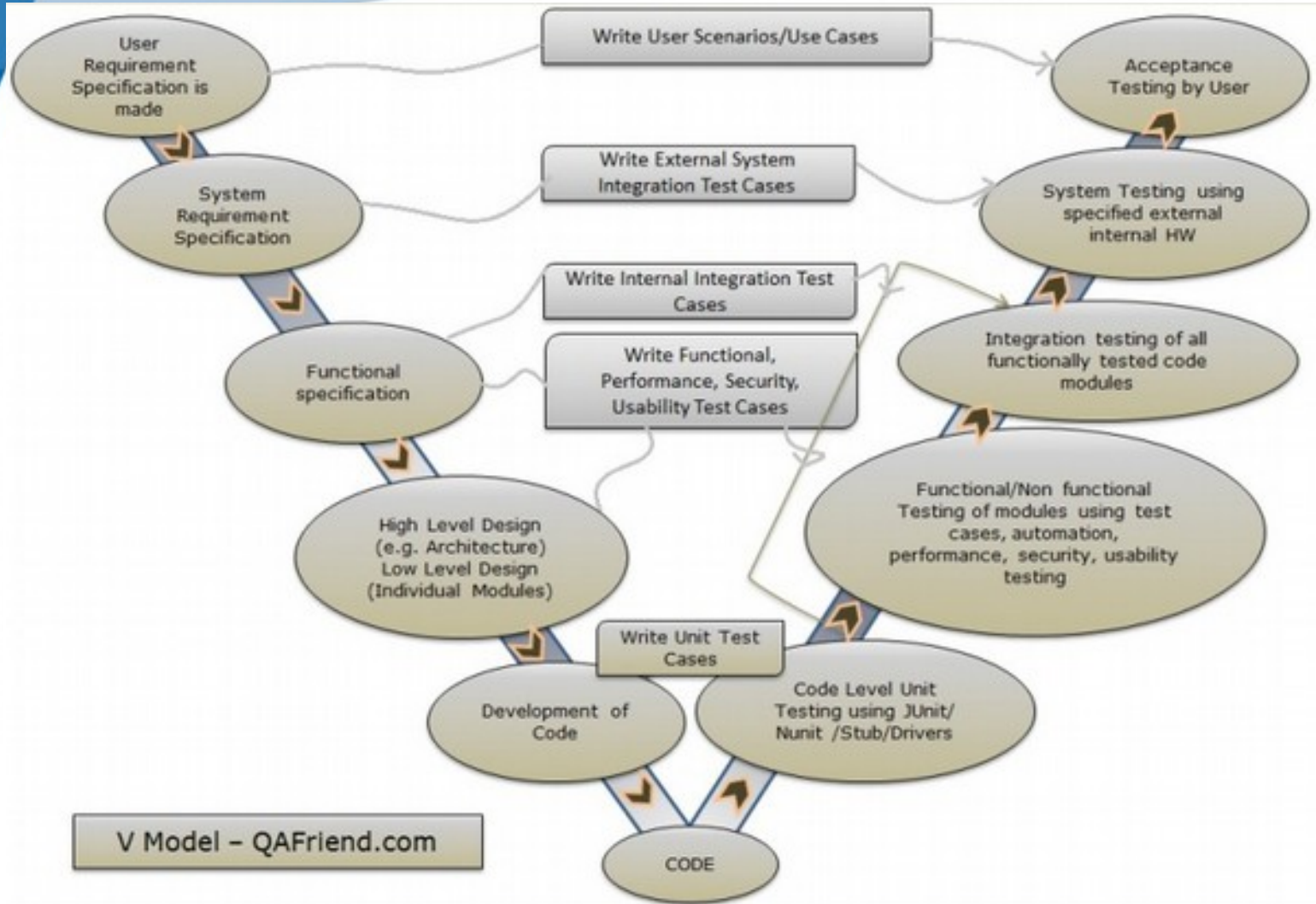


The Waterfall Model: A Traditional Approach of SDLC

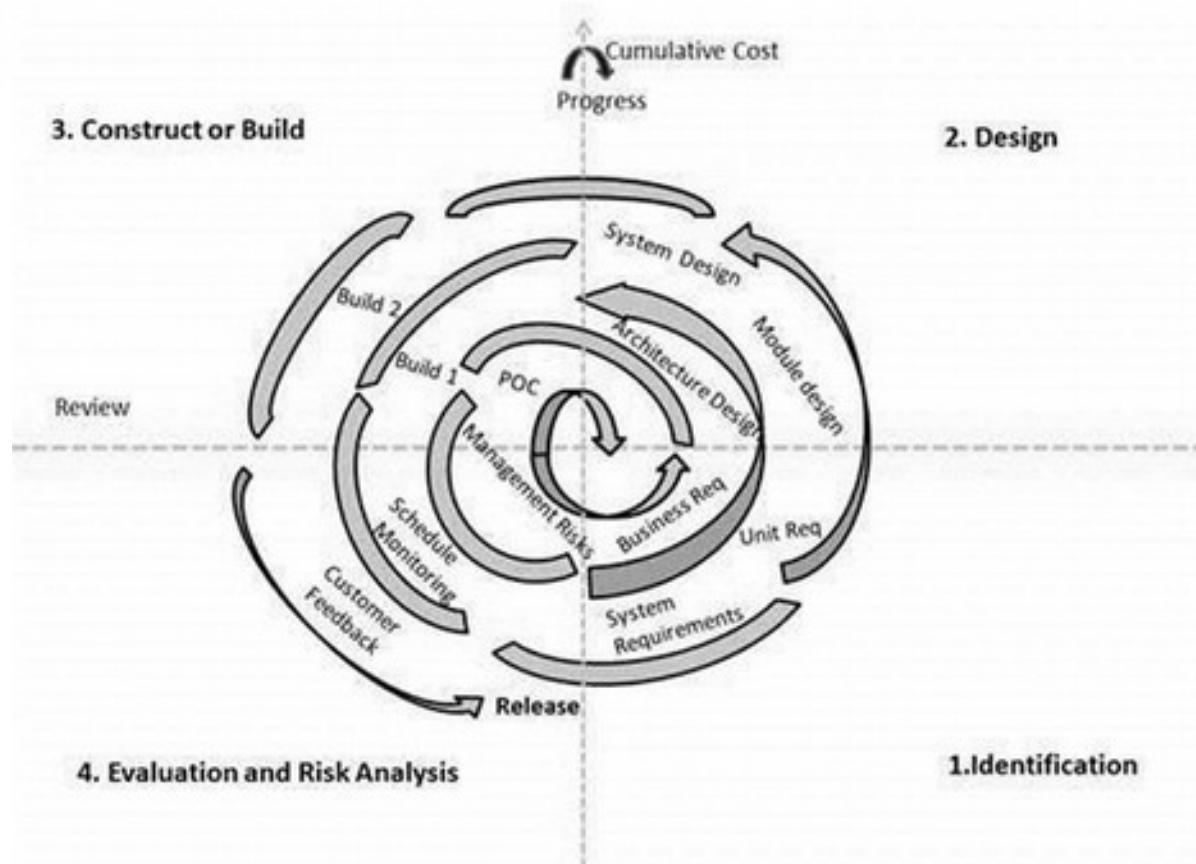
SDLC V-Model



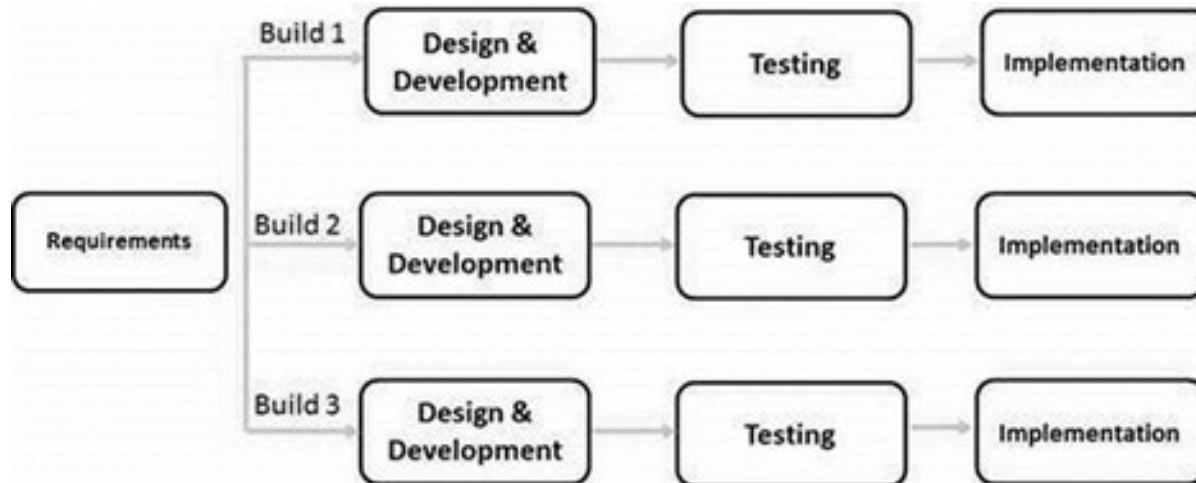
SDLC V-Model



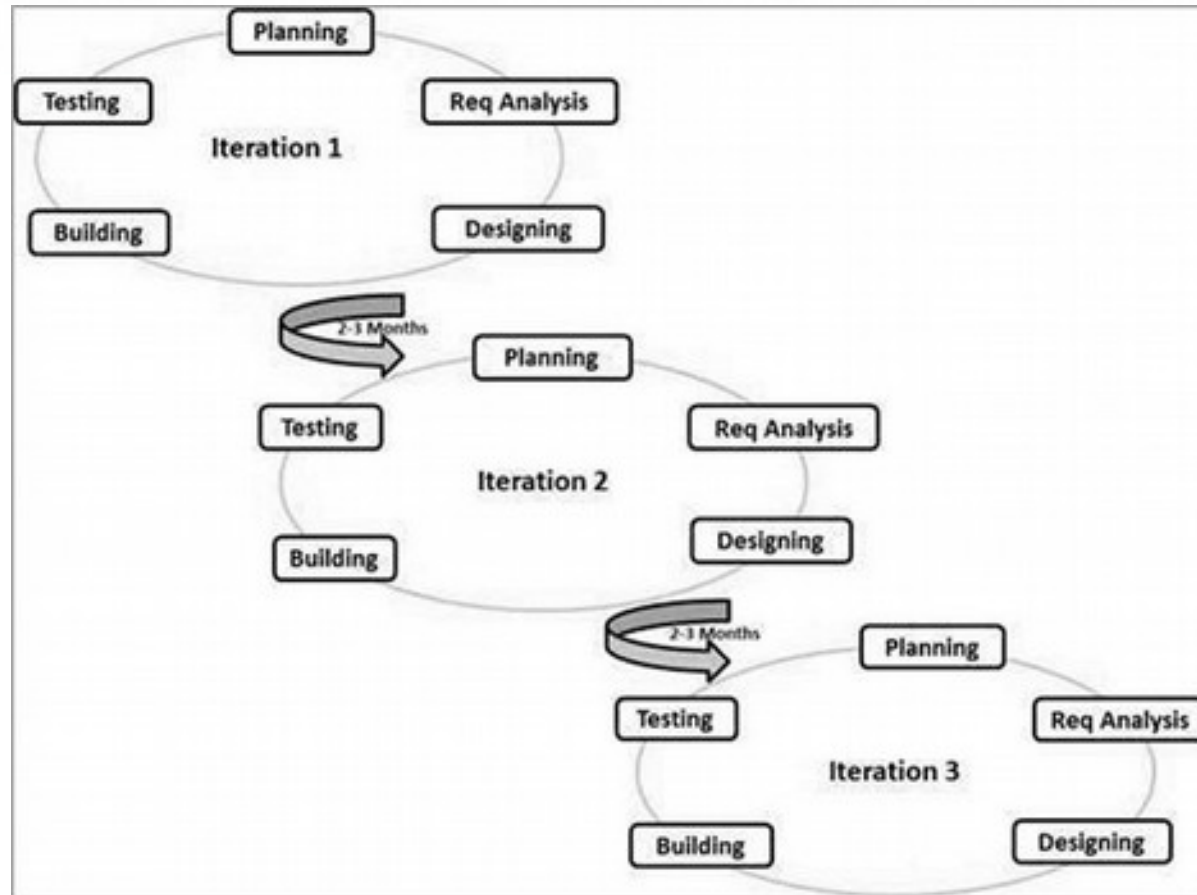
SDLC Spiral model



SDLC Iterative model

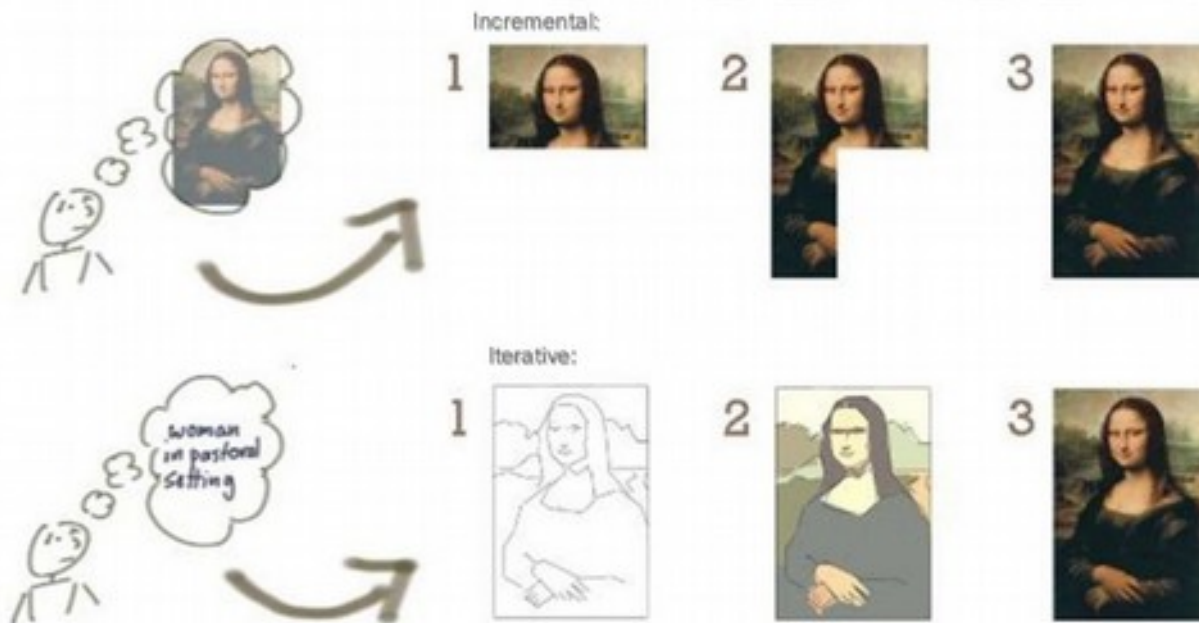


SDLC Incremental model (“Agile”)



Incremental vs Iterative

Incremental vs Iterative

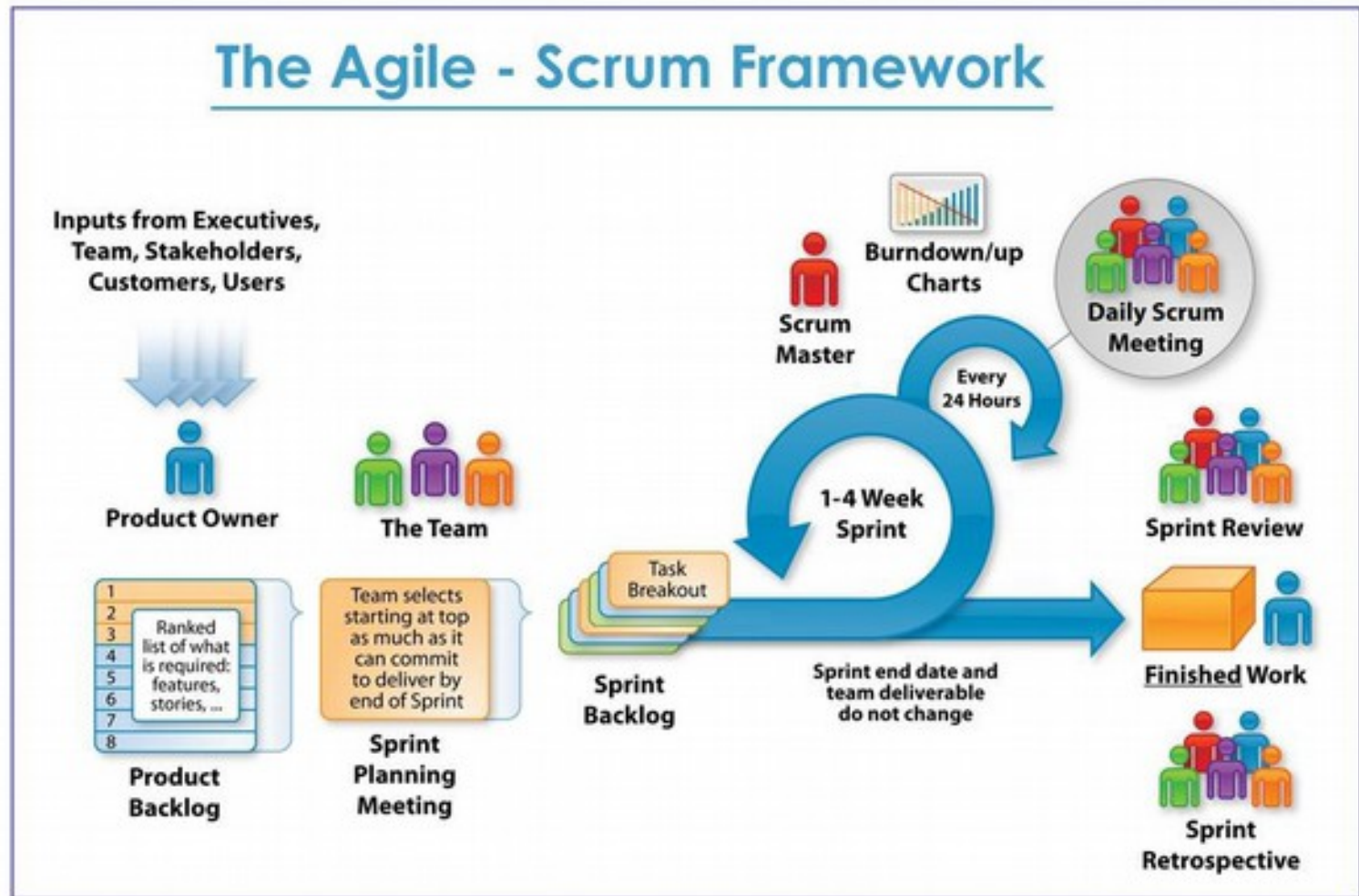


Willmund van Aarde, CMiC
willmund@configitems.com

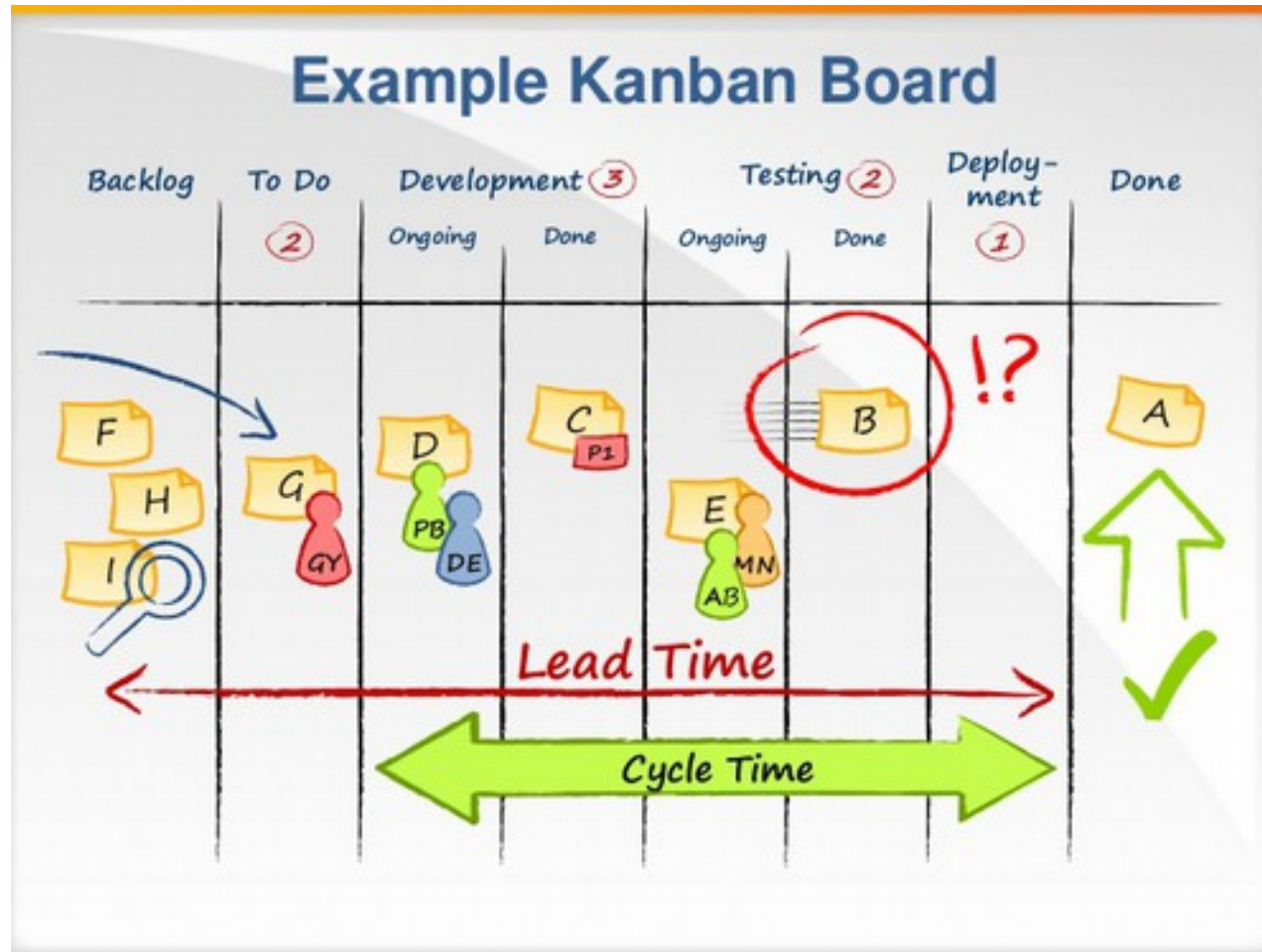
*Impact Mapping - Making A Big Impact With Software
Products And Projects by Gojko Adzic

Product Development using Agile Methodology - Scrum

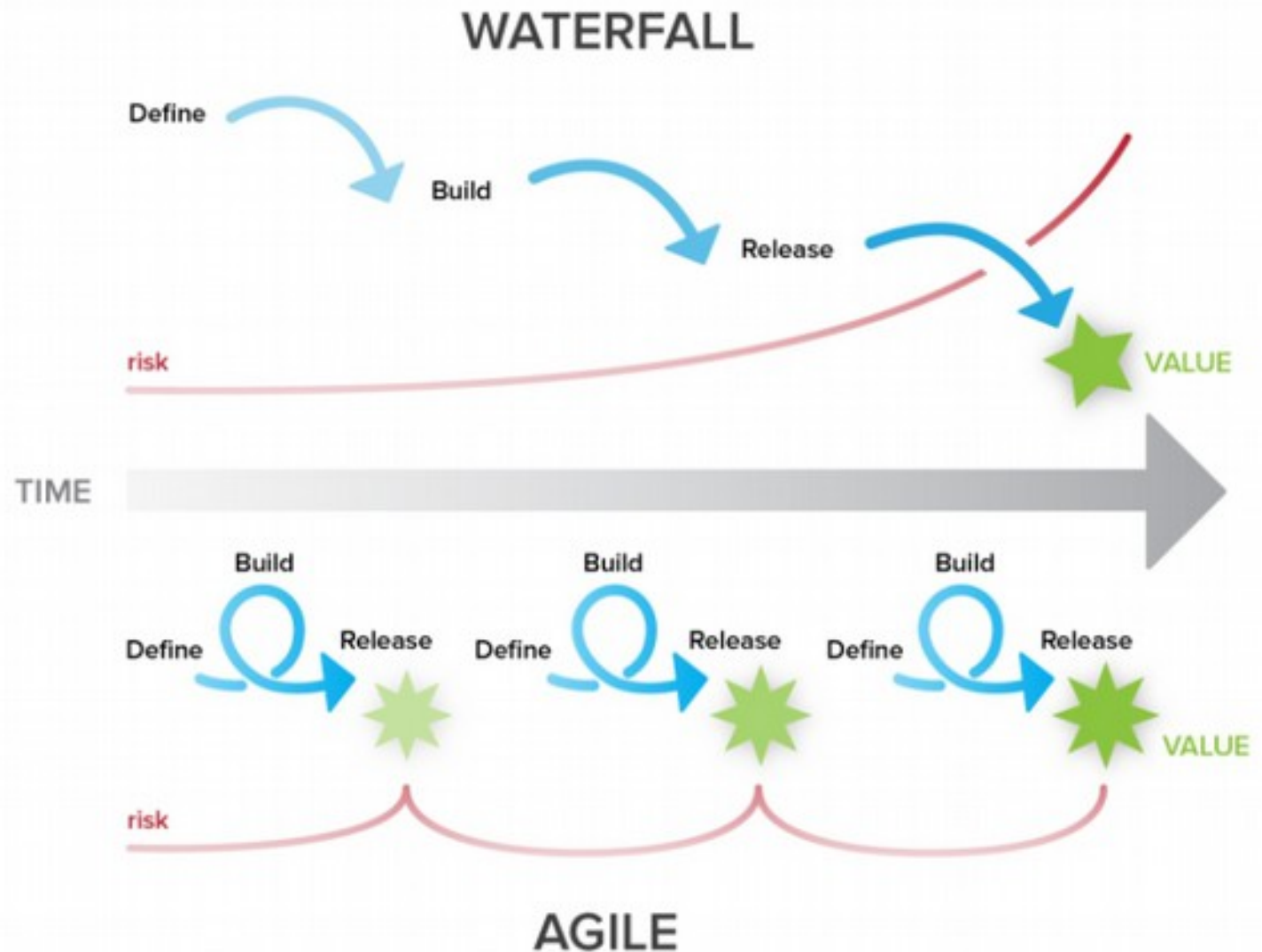
The Agile - Scrum Framework



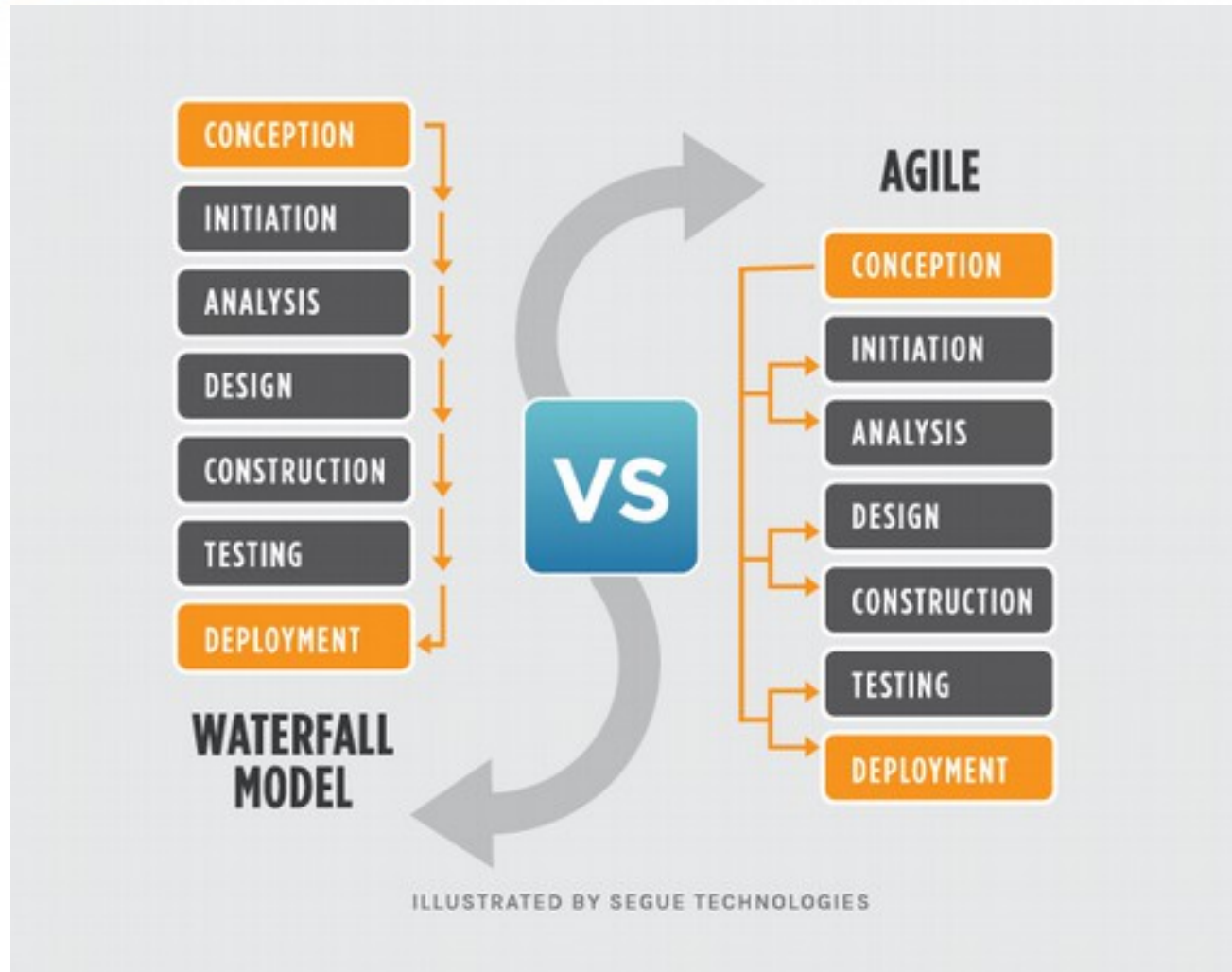
カンバン - Kanban (Kamban)



Waterfall vs. Agile



Waterfall vs. Agile



Why Testing is Necessary



Fundamentals of Testing



How the customer explained it



How the project leader understood it



How the analyst designed it



How the programmer wrote it



What the beta testers received



How the business consultant described it



How the project was documented



What operations installed



How the customer was billed



How it was supported



What marketing advertised



What the customer really needed

Fundamentals of Testing

Testing Syllabus & Glossary



In compiling the glossary the working party has sought the views and comments of as broad a spectrum of opinion as possible in industry, commerce and government bodies and organizations, with the aim of producing an international testing standard which would gain acceptance in as wide a field as possible. Total agreement will rarely, if ever, be achieved in compiling a document of this nature.

Contributions to this glossary have been received from testing communities throughout the world. The ISTQB® Glossary is used as a reference document for the International Software Testing Qualification Board® (ISTQB®) software testing qualification scheme.

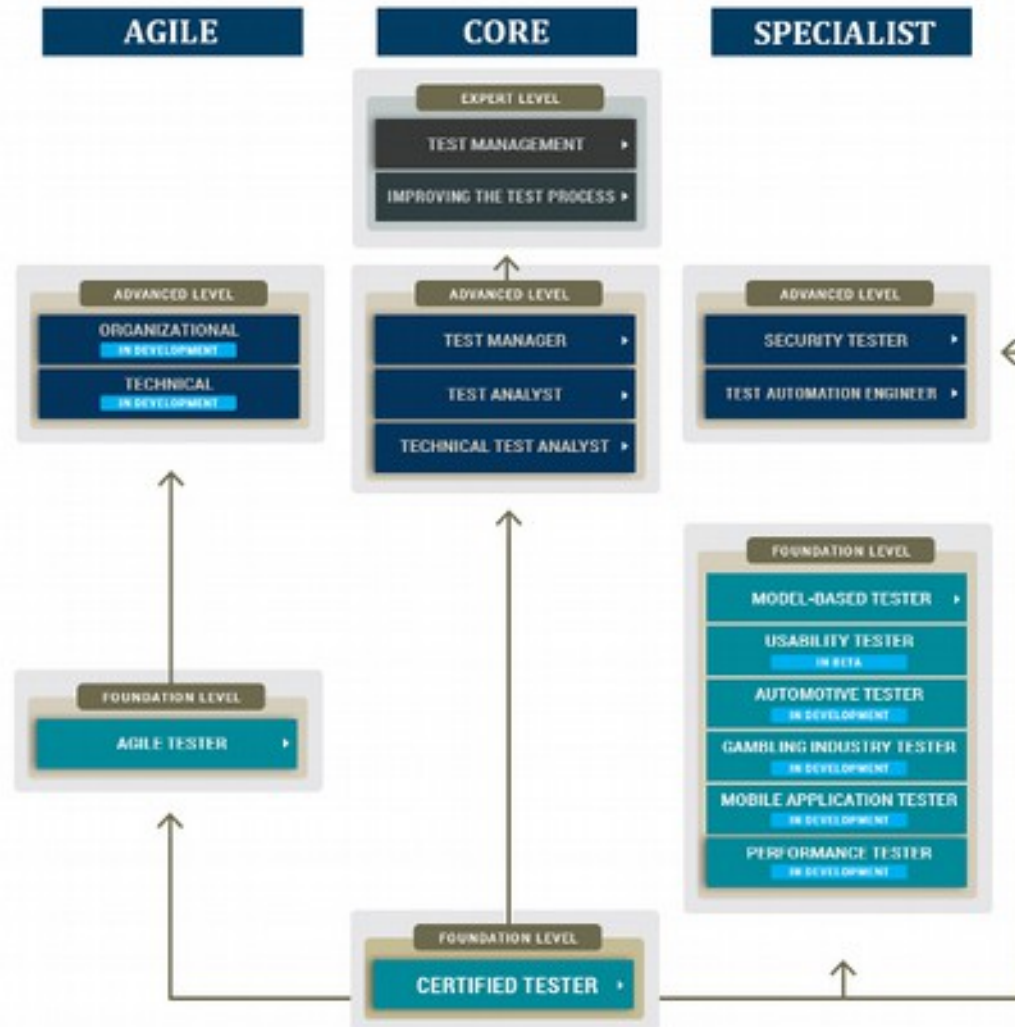
The document presents concepts, terms and definitions designed to aid communication in (software) testing and related disciplines.

The ISTQB® Glossary working party delivers a glossary of testing and related terms that is used as a reference / source document for syllabi at Foundation, Advanced and Expert level.

Implementation of a new version of the Glossary has been completed in March 2015 that is aligned with all the Syllabi.

The Glossary application is available at <http://glossary.istqb.org/>.

ISTQB® revamps product portfolio and releases roadmap



Fundamentals of Testing

Why Testing is Necessary:

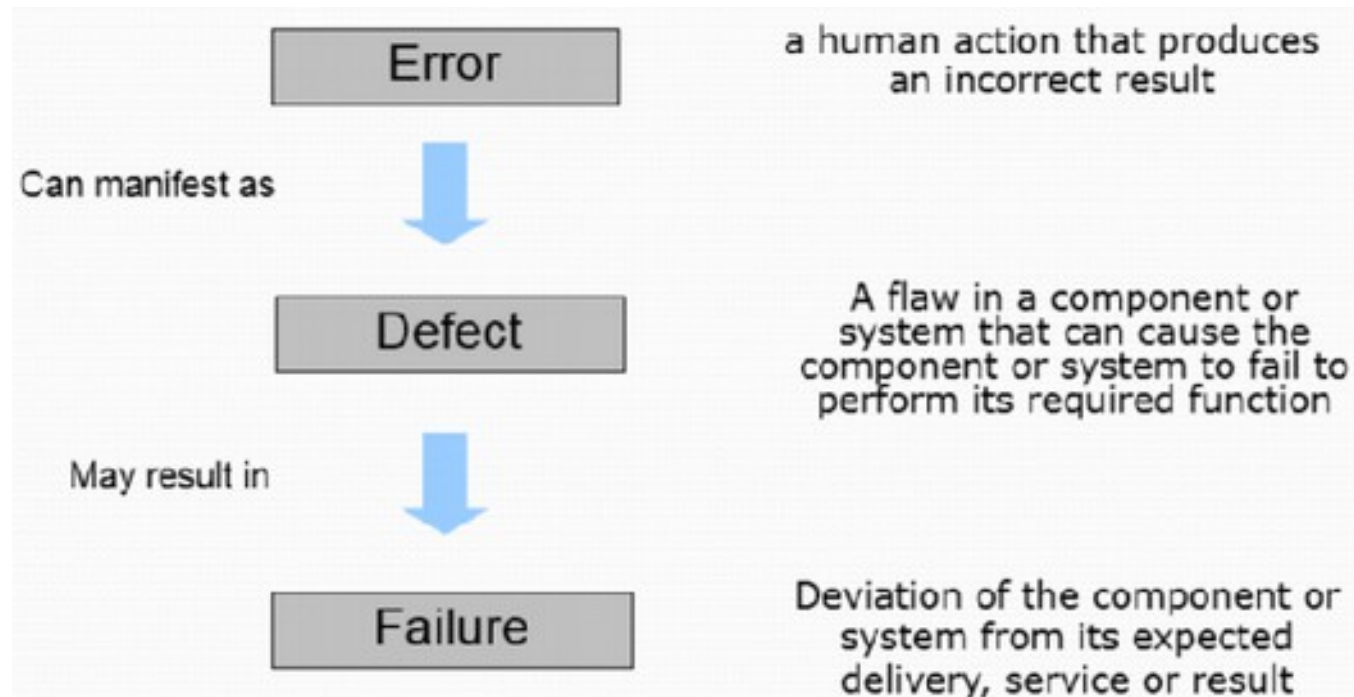
Human -> Error (mistake) -> Defect (fault, bug) which when executed may cause -> Failure

Measures the quality of the software

Gives confidence in the quality

Reduces the overall level of risk

How much testing? Depends on risk, safety & project constraints



Fundamentals of Testing

Testing Objectives

- Finding Defects
- Providing information for decision-making
- Preventing defects
- Gaining confidence about the level of quality

Fundamentals of Testing

Seven Testing Principles

- Testing shows presence of defects
- Exhaustive testing is impossible
- Early testing
- Defect clustering
- Pesticide paradox
- Testing is context dependent
- Absence-of-error fallacy



Fundamentals of Testing

Fundamental Test Process

- Planning & Control
- Analysis & Design
- Implementation & Execution
- Evaluating Exit Criteria & Reporting
- Test Closure



Fundamentals of Testing

The Psychology of Testing

- Mindset of Developer & Tester
- Communication in a constructive manner
- Test Independence

Who Should Test?



- Developer
 - Understands the system
 - But, will test gently
 - And, is driven by deadlines



- Independent tester
 - Must learn system
 - But, will attempt to break it
 - And, is driven by "quality"

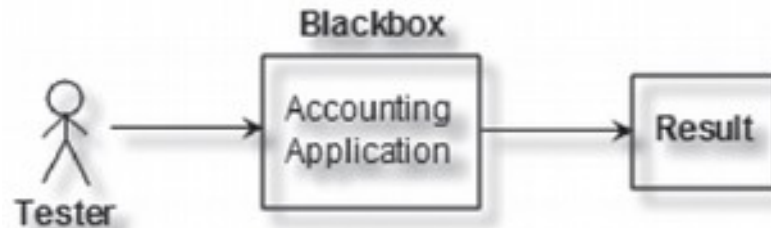
Fundamentals of Testing

Test Levels

Black Box (Specification based)

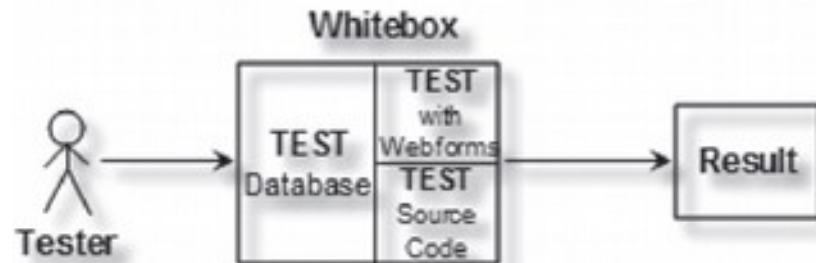
Functional Testing

Non-Functional Testing (Software Characteristics)



White Box (glass)

Structural Testing



Testing Related to Change

Re-Testing

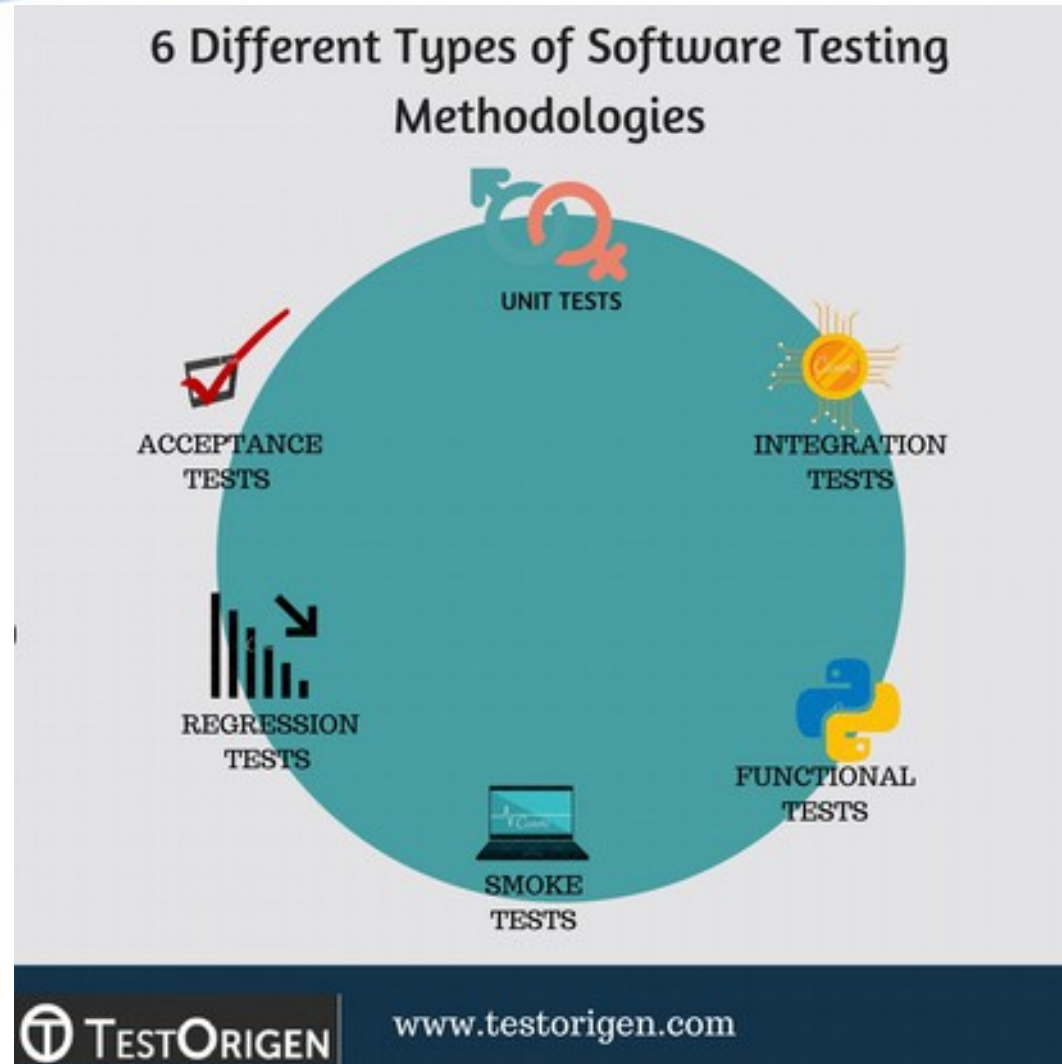
Regression

Fundamentals of Testing

Testing types:

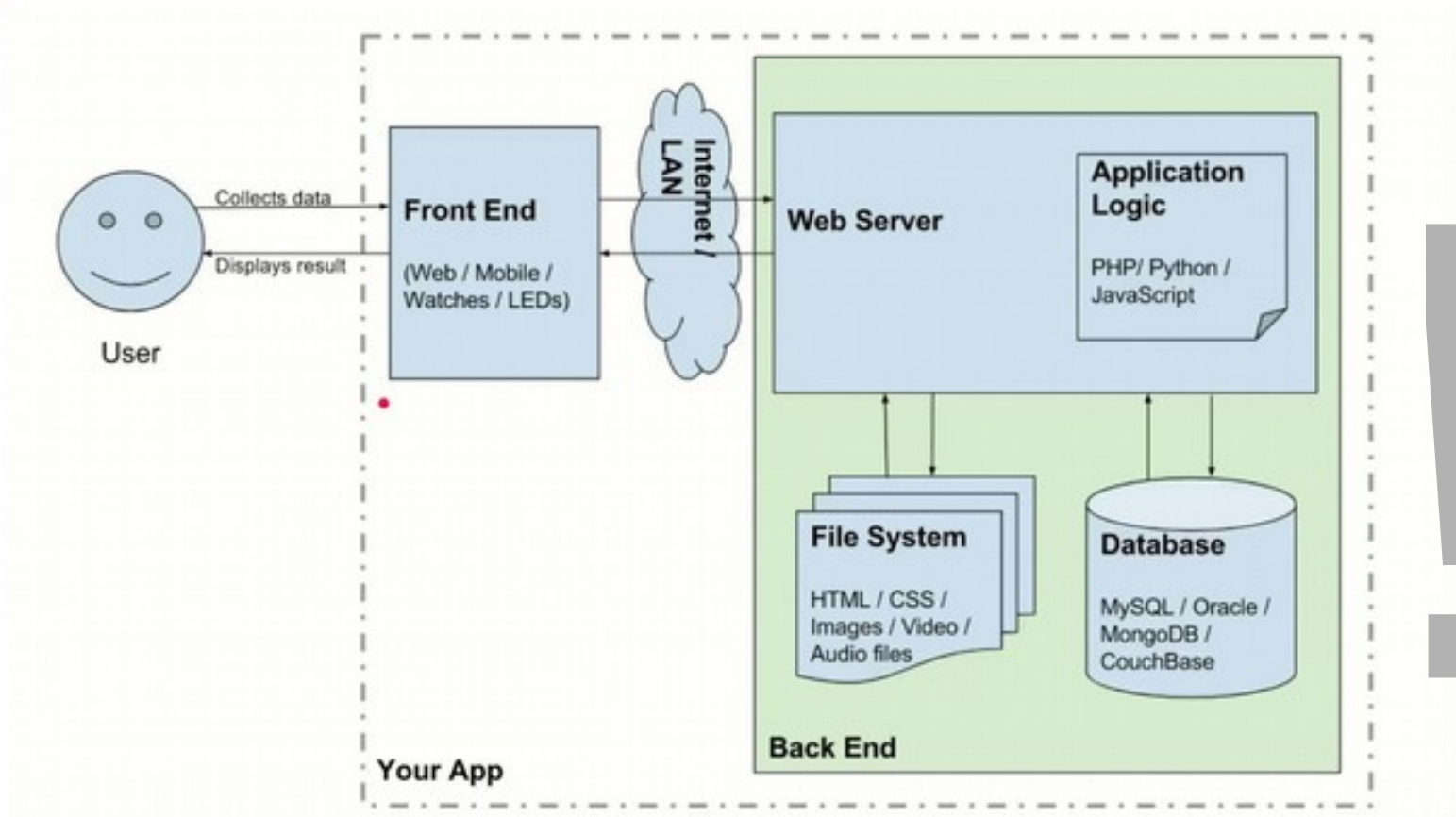


Fundamentals of Testing



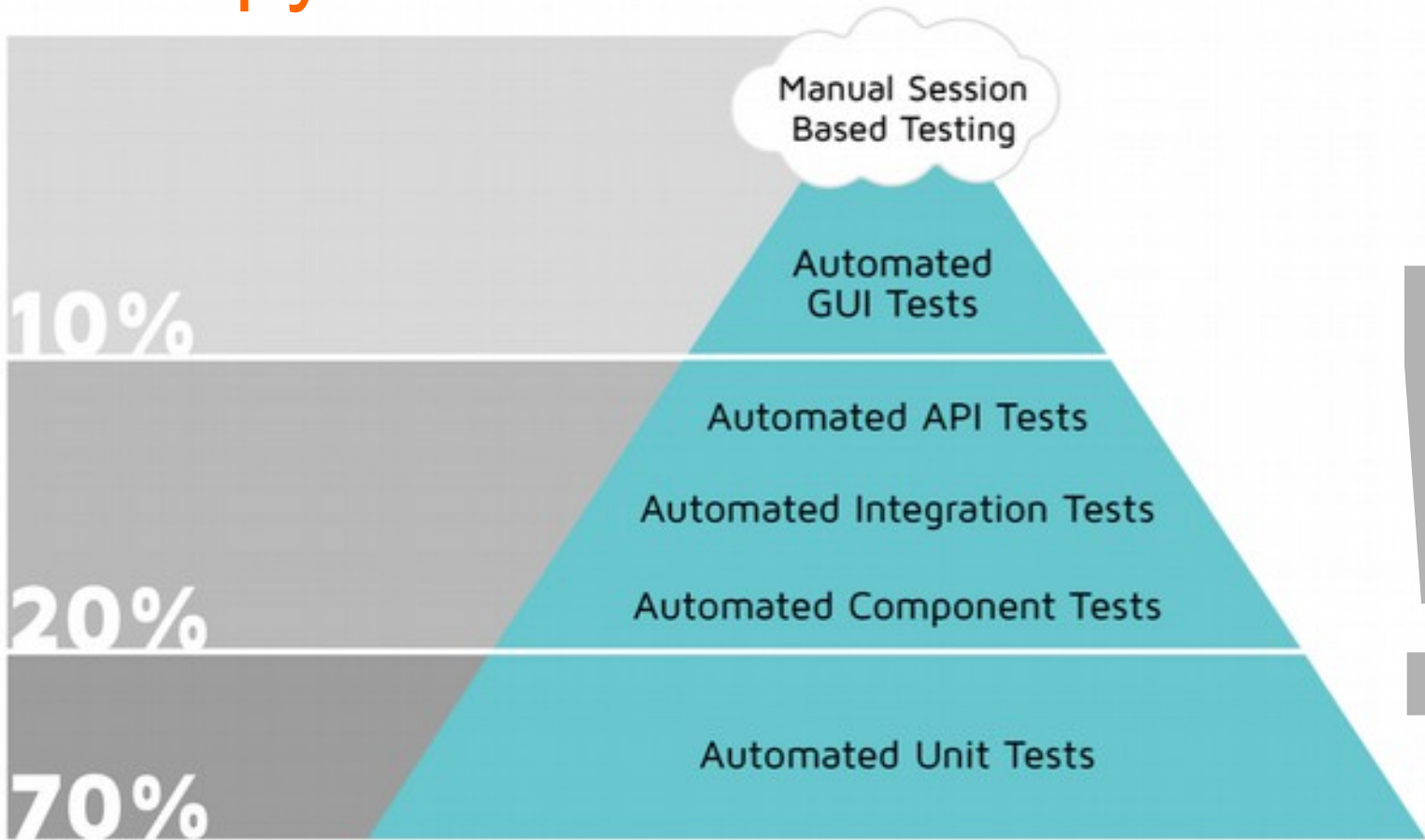
Fundamentals of Testing

Web App Architecture



Fundamentals of Testing

Test pyramid:



Fundamentals of Testing

Test documentation

- Test Plan
- Test Strategy
- Bug Report
- Test Case
- Test Suite
- Checklist



Fundamentals of Testing

Test attributes

- Summary (Title AND/OR description)
- Precondition
- Test Steps
- Expected Result
- Status



Fundamentals of Testing


Test Case example

<i>ID</i>	14
<i>Title</i>	Add customer
<i>Pre-Conditions</i>	Sign in with sales authorization
<i>Test Steps</i>	<ol style="list-style-type: none">1. Select the client module.2. Enter the customer information.3. Click "Add".
<i>Expected Results</i>	A message appears in the program's status bar. The message reads "New customer added".










Fundamentals of Testing



Bug report example

 Marker / MAR-131

[Pricing] - Update the price to \$29

 Edit  Comment  Assign  To Do  In Progress  Workflow  Admin

Details

Type:	 Bug	Status:	TO DO (View workflow)
Priority:	 High	Resolution:	Unresolved
Labels:	None		
Environment:	> — Browser Chrome 54.0.2840.71 Screen Size 1920 x 1200 Viewport Size 1607 x 920 Zoom L...		

Description

Summary:
The price mentioned on the pricing page is not correct

Steps to Reproduce:
Go to the pricing page


Expected Results
The price for the basic plan should be \$29


Actual Results:
The price for the basic plan is currently \$25

—


Source URL: <https://www.shopify.com/pricing>


Attachments


 Drop files to attach, or browse.




People

Assignee:  gary
[Assign to me](#)

Reporter:  Christophe Han

Votes: 

Watchers:  Stop watching th

Dates

Created: 1 minute ago

Updated: 1 minute ago

Agile

[View on Board](#)

HipChat discussions

Do you want to discuss this issue? [Connect](#)

[Connect](#) [Dismiss](#)

Fundamentals of Testing

Traceability matrix example

Requirement Identifiers	Reqs Tested	REQ1 UC 1.1	REQ1 UC 1.2	REQ1 UC 1.3	REQ1 UC 2.1	REQ1 UC 2.2	REQ1 UC 2.3.1	REQ1 UC 2.3.2	REQ1 UC 2.3.3	REQ1 UC 2.4	REQ1 UC 3.1	REQ1 UC 3.2	REQ1 TECH 1.1	REQ1 TECH 1.2	REQ1 TECH 1.3
Test Cases	321	3	2	3	1	1	1	1	1	1	2	3	1	1	1
Tested Implicitly	77														
1.1.1	1	x													
1.1.2	2		x	x											
1.1.3	2	x											x		
1.1.4	1			x											
1.1.5	2	x												x	
1.1.6	1		x												
1.1.7	1			x											
1.2.1	2				x		x								
1.2.2	2					x		x							
1.2.3	2								x	x					
1.3.1	1										x				
1.3.2	1										x				
1.3.3	1											x			
1.3.4	1											x			
1.3.5	1											x			
etc....															
5.6.2	1														x

Self-training home tasks:

//[TODO]

0. Install all recommended tools
1. Create accounts in all recommended services
2. Clone repo https://github.com/AndriiStepura/W2BUSINESS_QA_Academy with git bash console command:
`git clone {REPO_URL}`
3. Read ISTQB syllabus 1 and 2 chapters (1-30 pages)
4. In Asana project assign any task from “To Do” with title “Lecture #1 - Homework task” to yourself.
5. Fill the answers in the file “1.Introduction_to_IT_Test.xls” and attach it to task, than set task to “Ready to Review”.
6. Assign any another team member's task from “Ready to Review” to yourself and check answers. Assign this task to previous person and if answers are correct set the task as “Ready for Tests”, else add comments what is wrong and set the task as “To Do”.
7. Assign any another team member's task from “Ready for Tests” and check answers. Assign this task to previous person and if answers are correct set the task as “Done”, else set as “To Do”.
8. Check that you are not assigned to any task with status “To Do”.



Gratitude:

Thanks for review:



<http://w2business.pl/>
W2BUSINESS
QA academy

Thanks for tech background:



Centrum
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