



Testing through Software Development Lifecycle (SDLC)



SDLC

(ISTQB DEF) **A model that describes the types of activity performed at each stage in a software development project and how the activities relate to one another logically and chronologically.**

- Offers a basis for project planning and control
- Helps every team player know their role
- Ensures smooth progress
- Increases development speed
- Keep costs low



(ISTQB DEF) A model that describes the types of activity performed at each stage in a software development project and how the activities relate to one another logically and chronologically.

model - it should respond to the question “how?” (how to organise everyone to build the software)

activity - “who does what?”

stage - the different stages of the models where you fit as a member

chronologically - “when things get done?”

!! There are many different SDLC Models and the those 4 keywords is what makes the difference



SDLC Models

Sequential

Waterfall

V-Model

Iterative

RUP

Scrum

Kanban

Spiral



SDLC Stages

Analysis

Design

Development

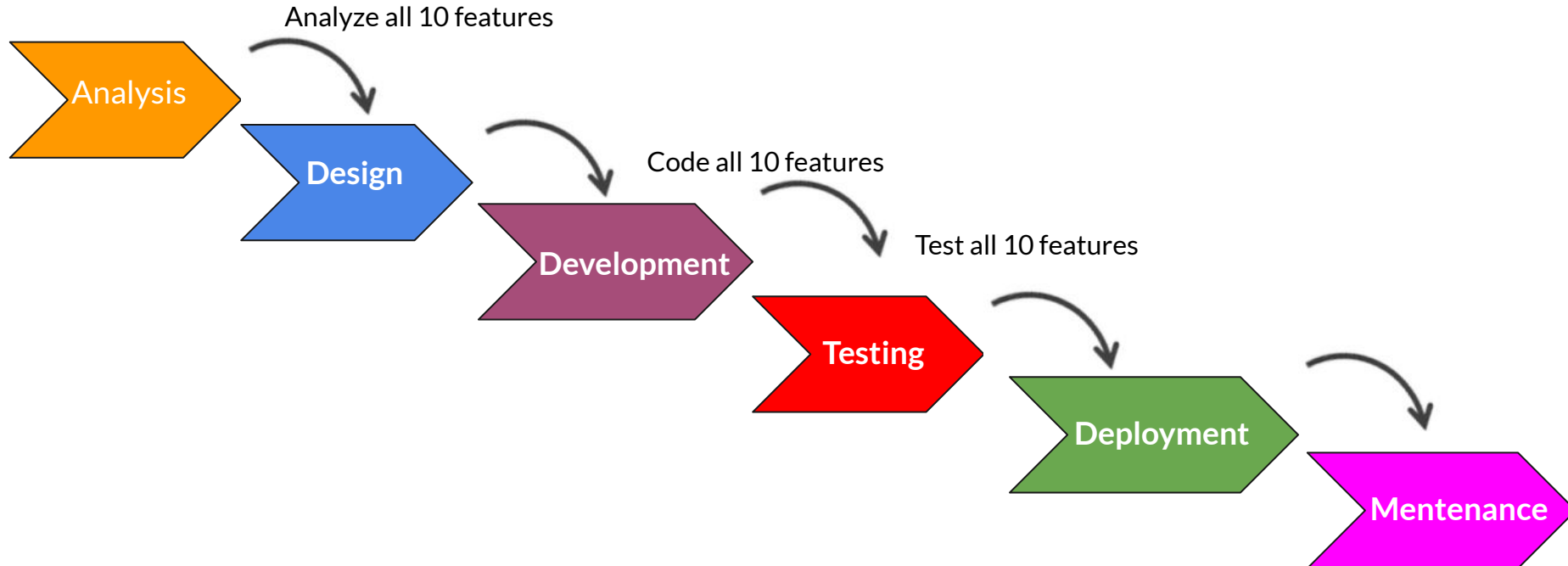
Testing


Deployment

Maintenance

1. Waterfall

i.e : 10 features



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1. Business Analyst does all analysis first
 2. Developers + Architects do all the design until last details
 3. Implementing all features and deliver to testers as version 1.0
 4. Testers are testing the version. If they find some bugs they report it and developers take it, fix it and deliver to testers version 1.1 and so on until version 1.x
 5. Delivered to the customers
 6. Maintenance



Waterfall disadvantages

1. Slow and inefficient process because people are waiting for others to finish.
2. Any phase can become a bottleneck
3. Very late feedback (as we discussed in module 1. A mistake is made in requirements and implemented in the software but found much more later)
4. Additional pressure on testers

Project = 5.5 months

Analysis
1 month

+1 week

Development
3 months

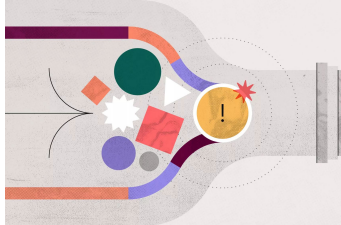
+ 2 weeks

Testing
1.5 months

3 weeks left instead of 6



Bottleneck



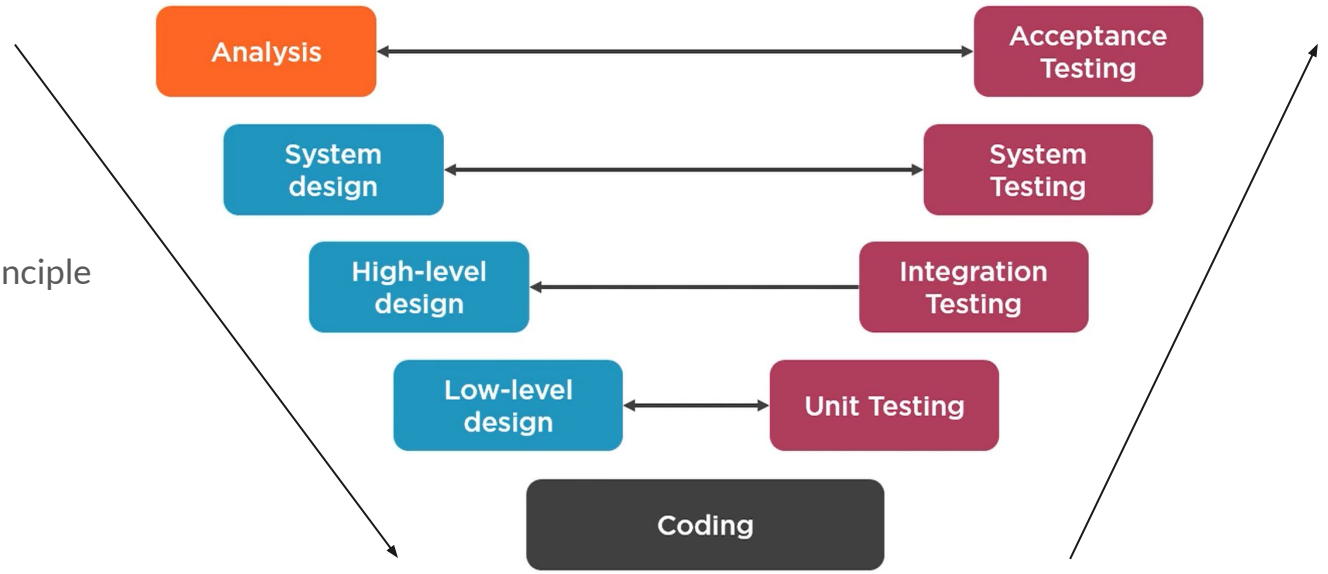
A bottleneck is **any point of congestion in a project that causes delays in the workflow**

Long wait times - your work is delayed because you're waiting for a product, a report or more information. ...

Backlogged work. There's too much work piled up at one end of a process, and not enough at the other end.

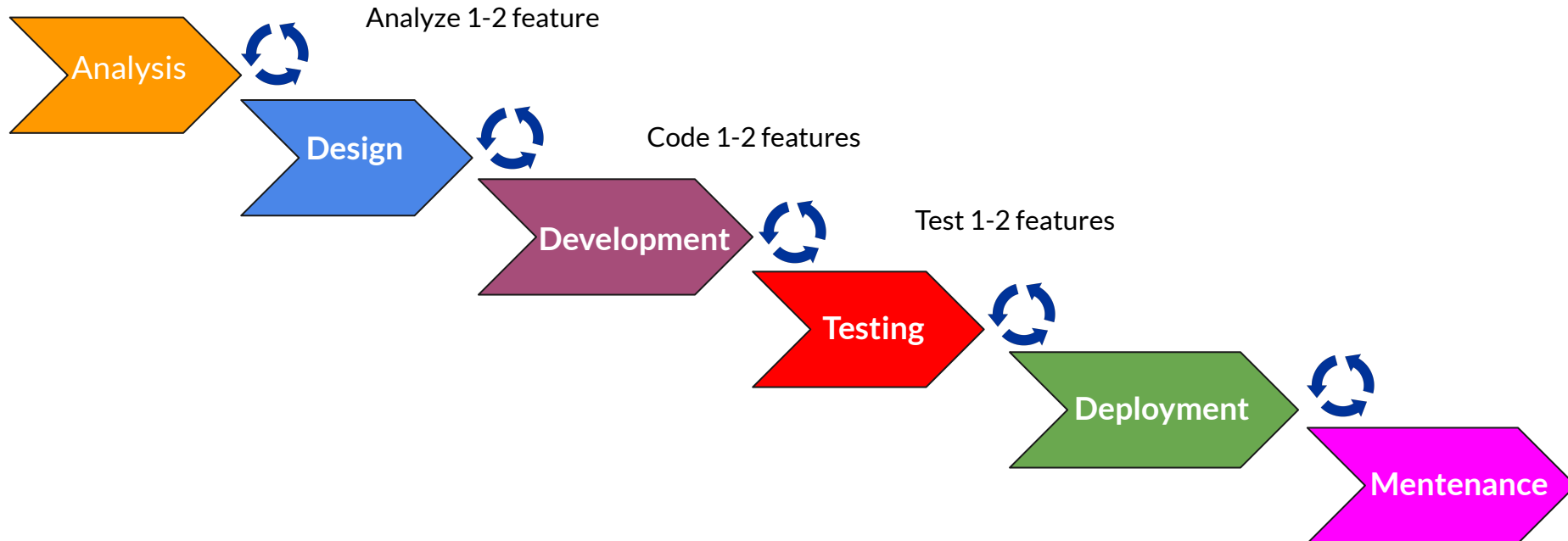
V-Model

V-Model is implementing the principle of early testing.



Iterative SDLC

i.e : 10 features





Iterative approach

Break the work:

- By features
- By time cycle (often fixed time)



Iterative Models

Rational Unified Process (RUP) (long iterations - months - deliver groups of interrelated features)

Agile: an umbrella term for

- Scrum (short iteration - weeks - deliver fewer things per iteration + assigned roles and task owners)
- Kanban (relax version of Scrum, tasks are shared by everyone, you don't have a single coordinator distributing things, timeline evolve)

Spiral (Experimental - most flexible may integrate other models)