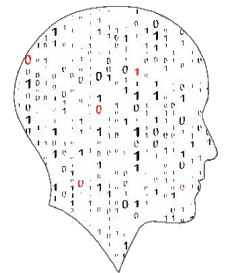




An Roinn Oideachais  
Department of Education

# National Workshop 6



LEAVING CERTIFICATE  
COMPUTER SCIENCE



## Session 2

# Evaluation and Testing

## By the end of this session participants will have:

- Examined the importance of testing in the software development cycle.
- Experienced real-life testing scenarios.
- Developed test plans and test cases for a variety of situations.
- Investigated and experienced test-driven development.

# LCCS Learning Outcomes

## **Evaluation and Testing:**

L.O.s 2.19, 2.20, 2.21, 2.22.

But also

Design and Developing

L.O. 1.19

Computational Thinking

L.O.s 1.1 - 1.19

Computers and Society

L.O.s 1.11

Computer Science in Practice

L.O.s 3.2 – 3.14



## Talking about Testing



## Software Testing

In groups of three, discuss the importance of software testing.

Each group to come up with three to five points, which are collated and saved.



# Debrief From Each Group

Software testing: What were your thoughts?

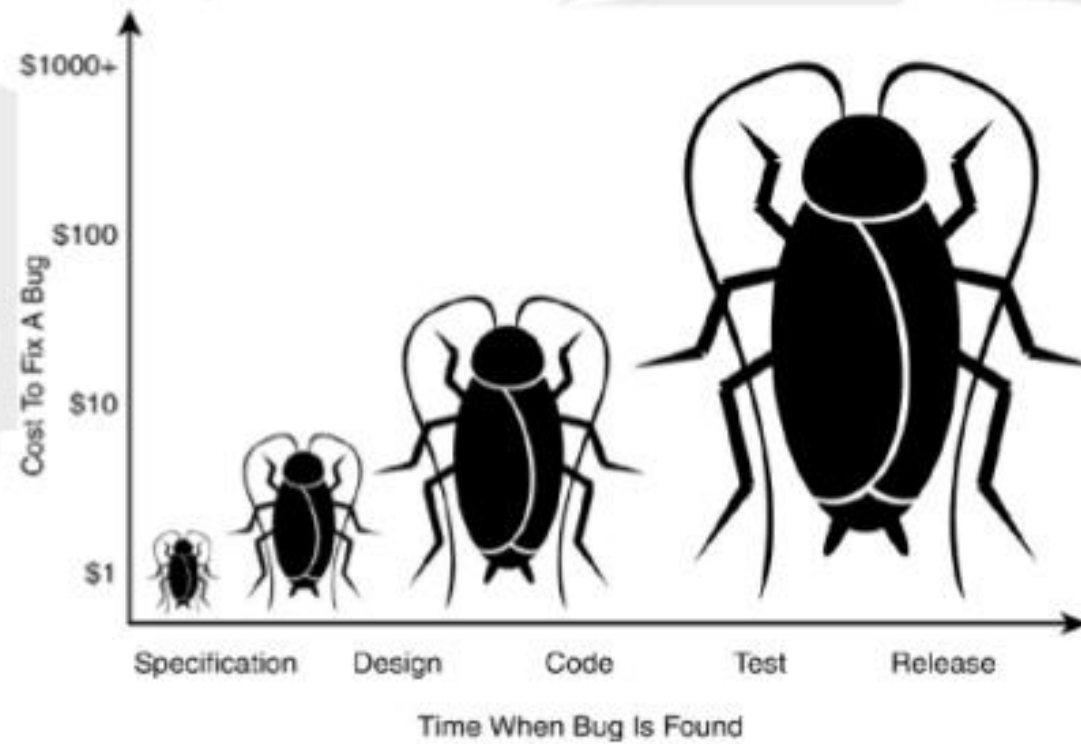




## Some interesting scenarios

- Windows XP – how many bugs?
- MS Word 97 – French version – what happened?
- Boeing
- Costs
- Norman Whiteside

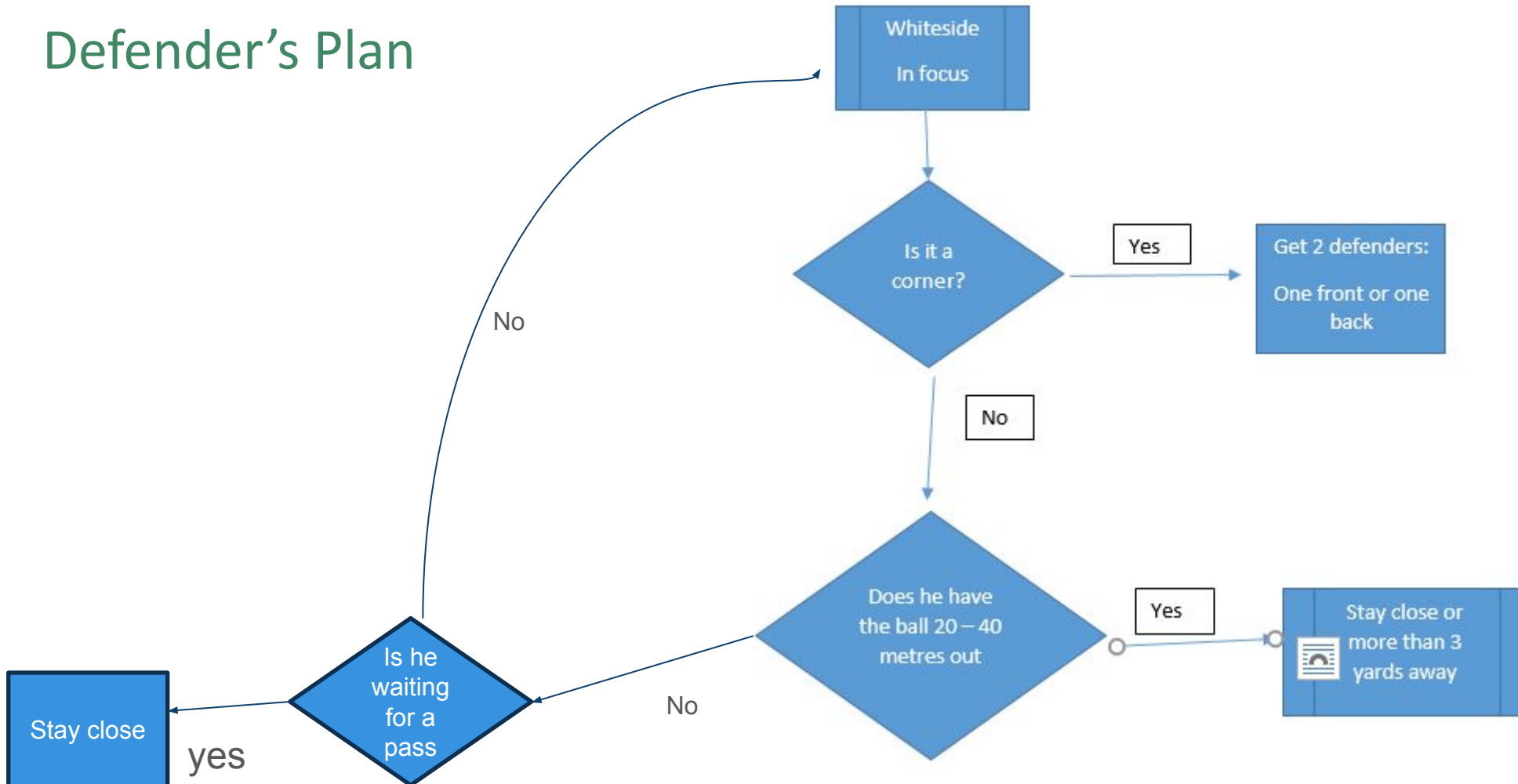
# Bug fixing cost



## Norman Whiteside's goal in the FA Cup 1985



## Defender's Plan



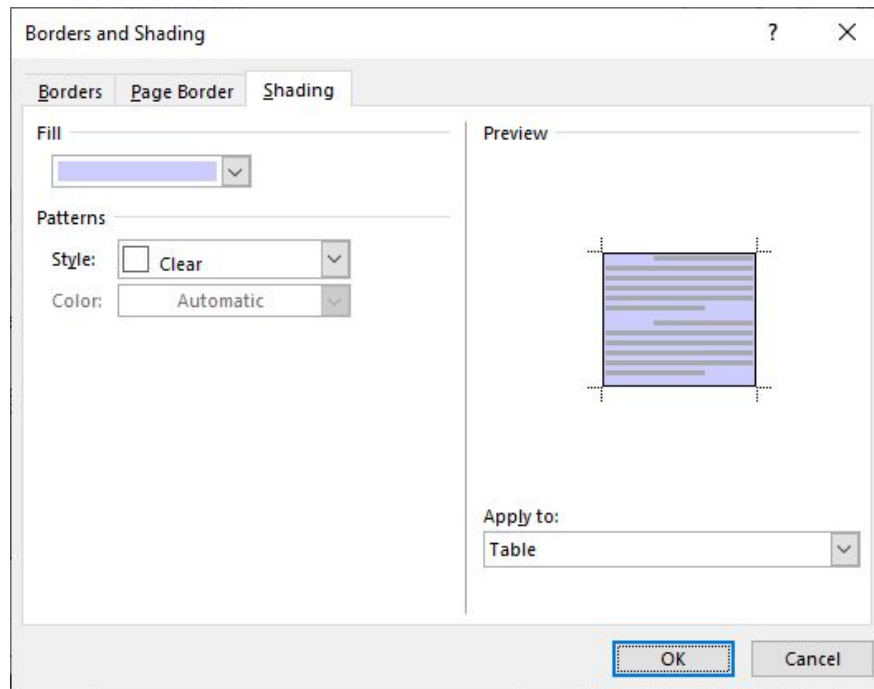


Let's test 1



## Let's Test

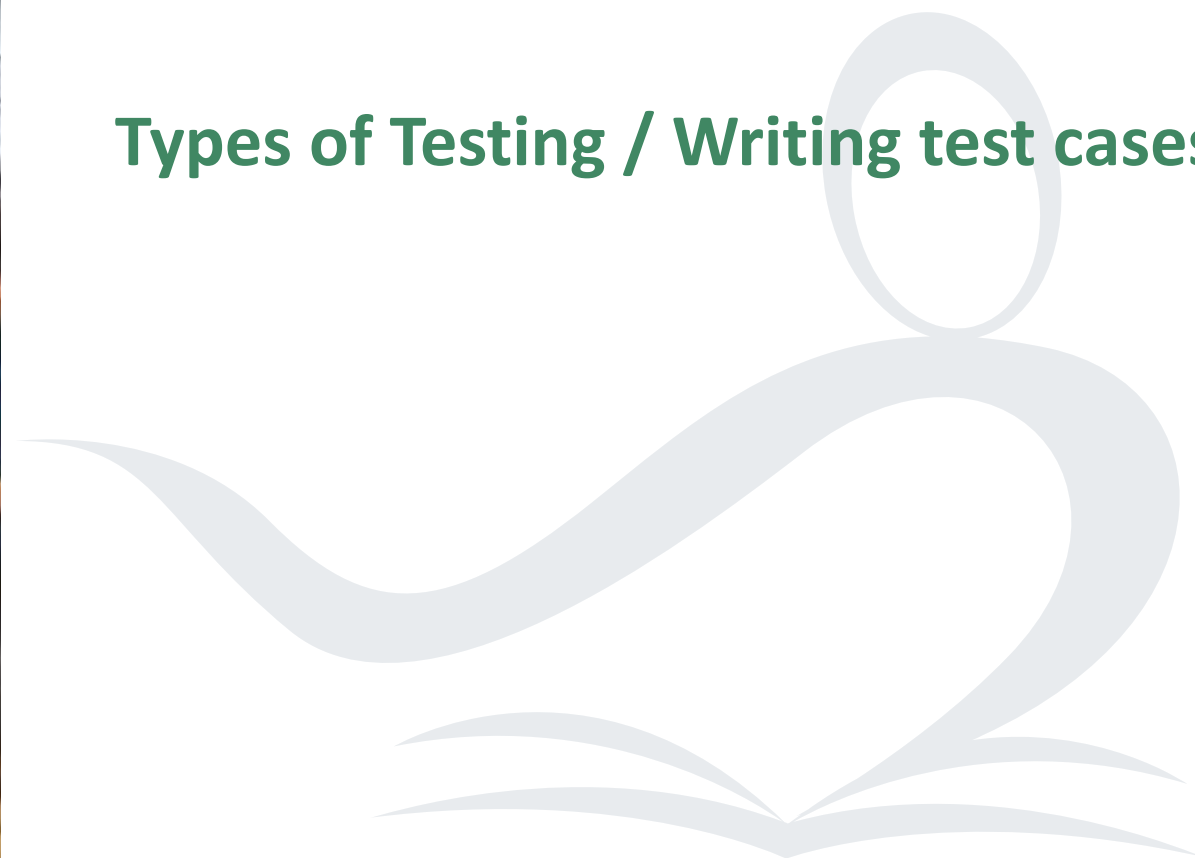
Plan and implement a test plan for a real-life test scenario:







## Types of Testing / Writing test cases



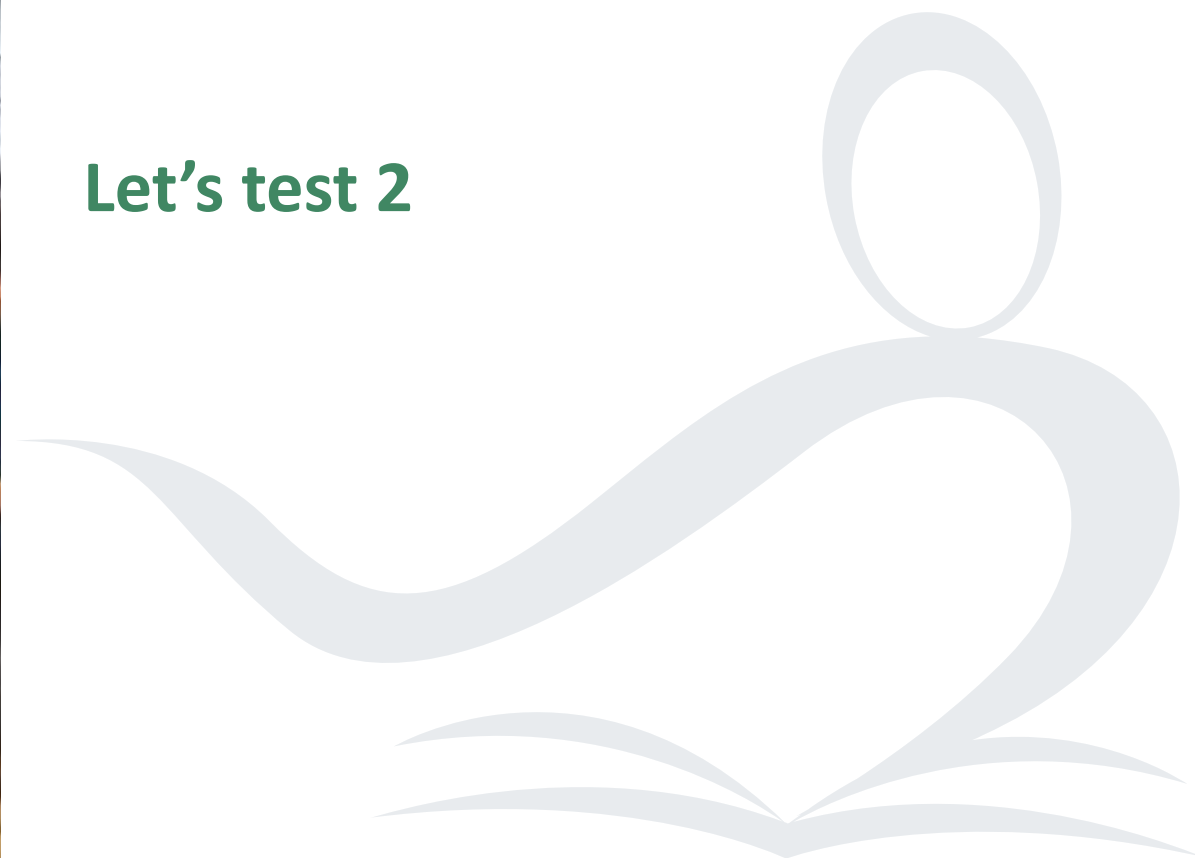
## Teachers research and report:

1. Functional v non-functional testing
2. Unit vs Integration (System Testing)
3. White v black box testing.
4. Designing a test plan.
5. Writing test cases.
6. Test-driven development
7. Testing in Waterfall / Agile / V-shaped model development



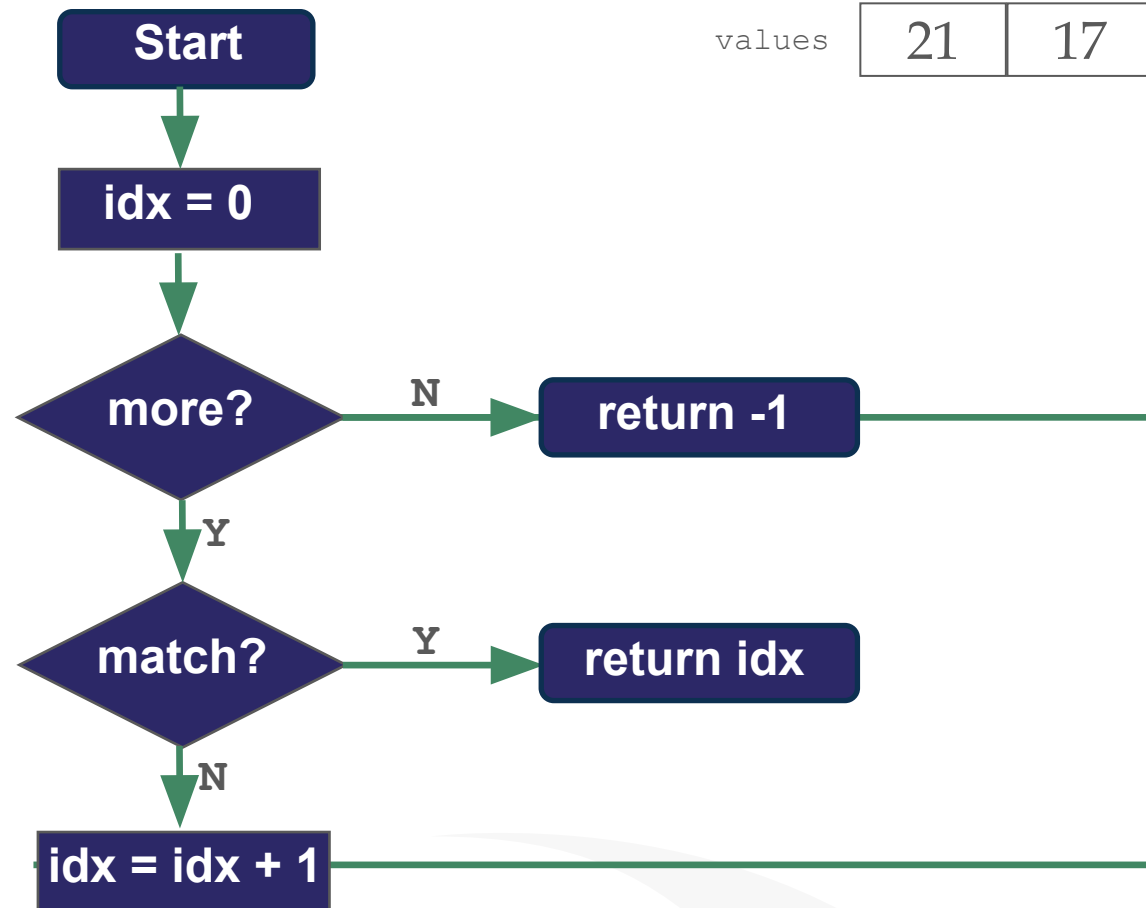


Let's test 2



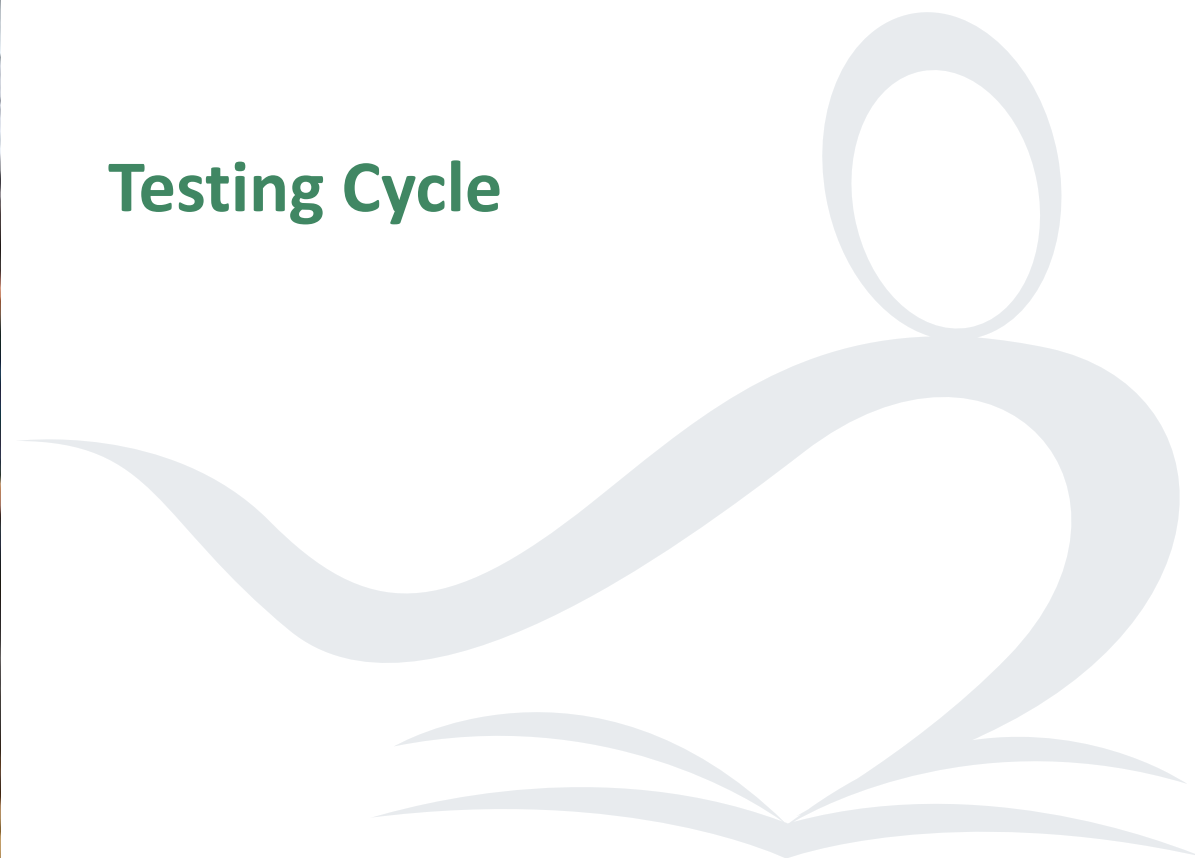
# Linear Search

idx	0	1	2	3	4	5	6
values	21	17	-1	26	22	-5	24





## Testing Cycle





# Testing Cycle:

Requirements Analysis

Test

Planning

Development

Execution

Reporting



## Test-driven development



# Test-driven development:

1. Run a test
2. Run all tests and see if new test fails
3. Write the code
4. Run tests
5. Refactor code
6. Repeat

KISS: Keep it simple stupid.

YAGNI: You aren't gonna need it.

“Fake it till you make it” (Kent Blake): Write only code needed to pass tests.

# TDD / Agile / Waterfall / V-model Development:

Does TDD fit in the Agile framework?

Is TDD the same as Agile development?

Is Waterfall development relevant?

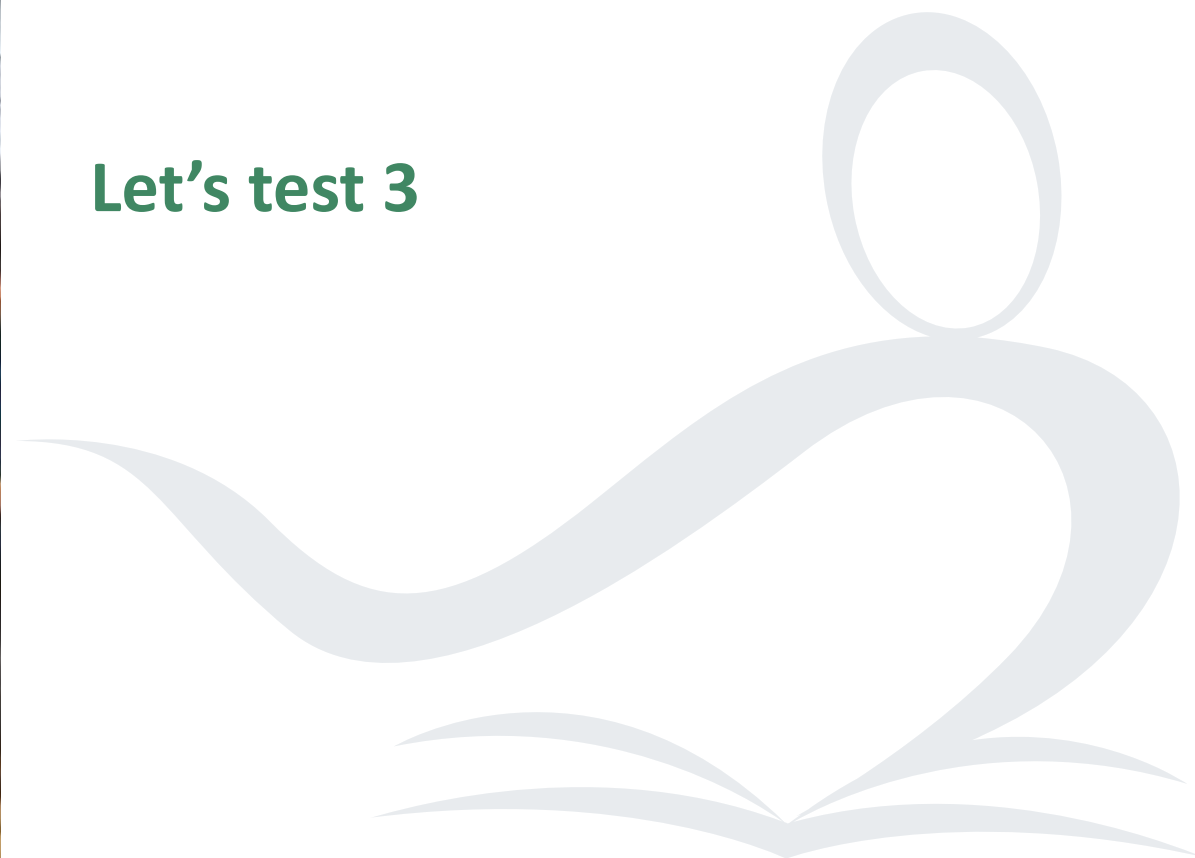
What is the V-model in testing?

How does the role of testing change, according to these methodologies?





Let's test 3





## Develop Test cases and Implement:

### Cupán Nua

Name

Company

E-mail

Message

Submit

[www.cupannua.com](http://www.cupannua.com)



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