

Introduction to Testing in Java

Introduction



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Why Automate
Testing?

The Testing Hierarchy

Course Outline

Why Automate Testing?



Software Testing



Achieves stakeholders goals

Meets functional requirements

Correctly handles corner cases

Performance

Usability

Software Testing



Achieves stakeholders goals

Meets functional requirements

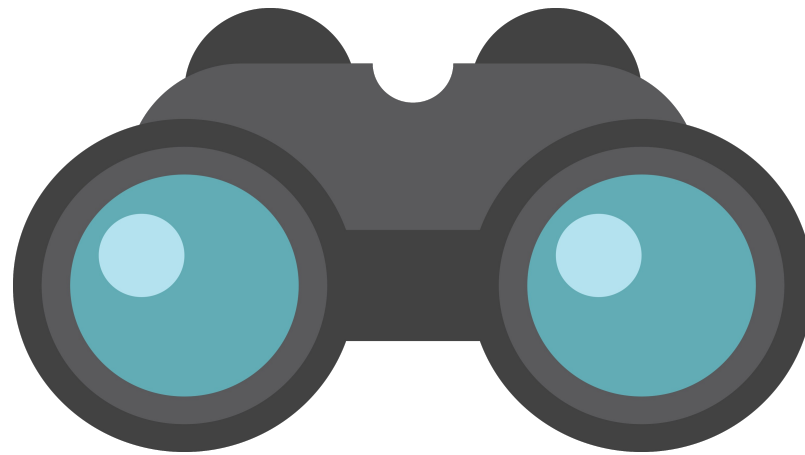
Correctly handles corner cases

Performance

Usability

Automated Testing

Deliver Reliability &
Quality



Remove fear of change

The Testing Hierarchy

Let's break down the different types of test



System

Aggregate

Unit



Unit

Test just a single unit of functionality

Eg: `Math.min(1, 0) == 0`

One class, method or small module

No non-trivial dependencies

Fast, but possibly brittle

Aggregate

Does a component do its job?

Eg: *Persistence repository can list saved Albums
for an Artist*

Slower, less brittle

System or “End to End”

Check that the application meets its requirements

Eg: *We can buy widgets from our E-commerce website*

Slowest, least brittle

Requires the ability to run the application



The diagram consists of three concentric ellipses. The outermost ellipse is the largest and contains the word 'System'. Inside it is a medium-sized ellipse containing the word 'Aggregate'. The innermost ellipse is the smallest and contains the word 'Unit'. The ellipses are centered horizontally and vertically on the page.

System

Aggregate

Unit

Course Outline

A quick overview of other modules

Course Outline

Testing Code

Writing Good Tests

Introducing TDD

Building Classes
from Tests

Dependencies

Going Outside-In

Summary

You Should Now Understand



What we'll be covering in this course

The Testing Hierarchy

Why you should automate your tests