

Java: Writing Readable and Maintainable Code

CLEAN AND MAINTAINABLE CODE CONCEPTS



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TEST AUTOMATION ENGINEER



Clean Code!

```
Instant snoozeTime = now().plusSeconds(60);  
  
ringAfter(snoozeTime);
```



Clean Code?

```
Calendar c = Calendar.getInstance();  
c.setTime(new Date());  
c.add(13, 60); // adds one minute  
new AlarmClock().ring(c.getTime());
```



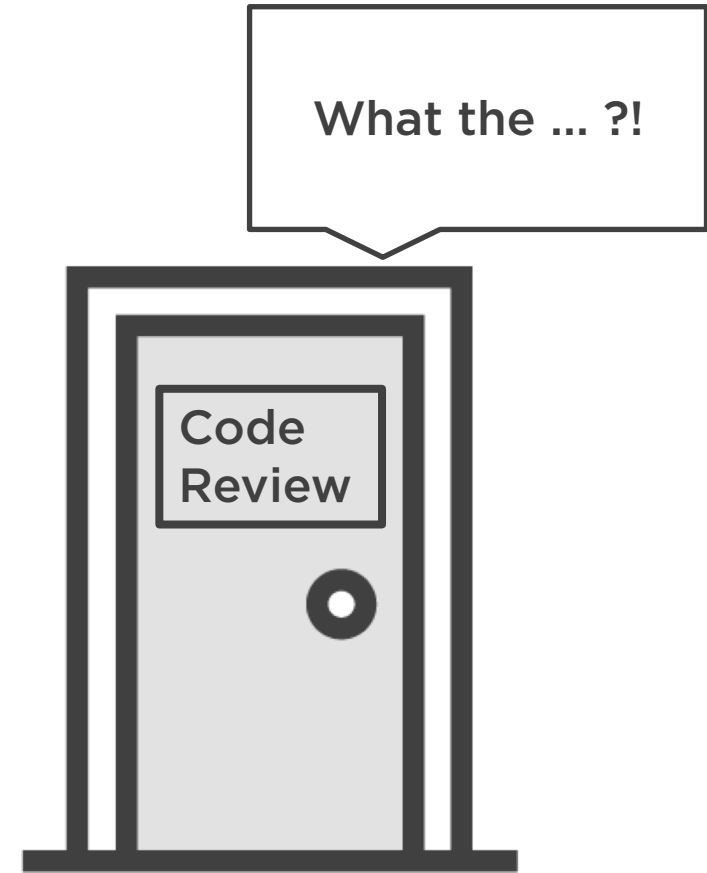
Why can't I understand this code?



Not enough experience?
Code is poorly written?



Do I write clean code?



“The best programs are written so that computing machines can perform them quickly and so that human beings can understand them clearly.”

Donald Knuth

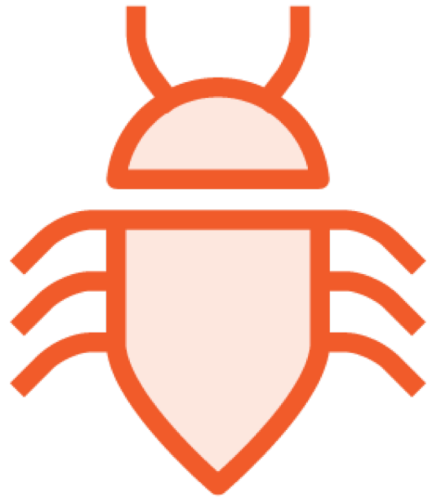


Clean code is not
a nice-to-have.

It's a necessity.



Dirty Code Consequences



More Bugs



Decreased Productivity



Lower Job Satisfaction

Bug Consequences



Decades-old bug wiped out UK air traffic control

Source: <https://www.itpro.co.uk/business-intelligence/24682/decades-old-bug-wiped-out-uk-air-traffic-control>



Knight Shows How to Lose \$440 Million in 30 Minutes

Source: <https://www.bloomberg.com/news/articles/2012-08-02/knight-shows-how-to-lose-440-million-in-30-minutes>



Time Spent on...

Reading Code

Writing Code

50%

50%



Time Spent on...

Reading Code

Writing Code



90%

10%



“We are constantly reading old code as part of the effort to write new code...

Therefore, making it easy to read makes it easier to write.”

Robert Martin



Treat technical debt like
credit card debt.



Who Should Care?



Developers

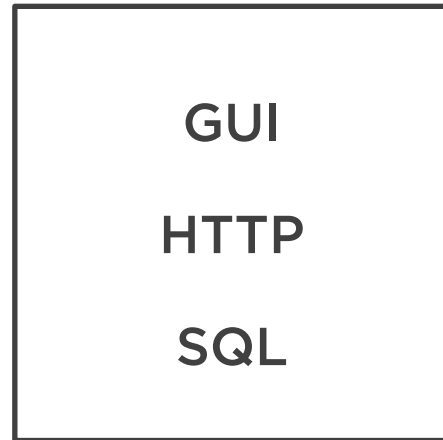


Test Automation
Engineers



Project Managers

Testing Framework



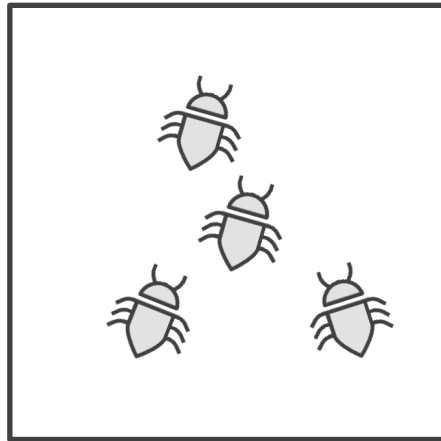
Input



Application



Testing Framework



Input



Application



Prerequisites

Java

Any IDE



Course Overview



Naming Matters

Better Constructors

Implementing Methods

Handling Exceptions

Class Organization

Writing Comments

Improving Tests

Maintaining Clean Code



“Always code as if the guy who ends up maintaining your code will be a violent psychopath who knows where you live.”

John Woods

