



Skill of Good Software Developer

HOLA!

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Google Developer Expert and Intel Software Innovator

Dicoding Content and Open Source Contributor



Why and how

Do you need to become a Good Software Developer?



“ In the path to digital transformation, our country needs digital talent, reaching at least nine million, for the next 15 years. – President Joko Widodo

“

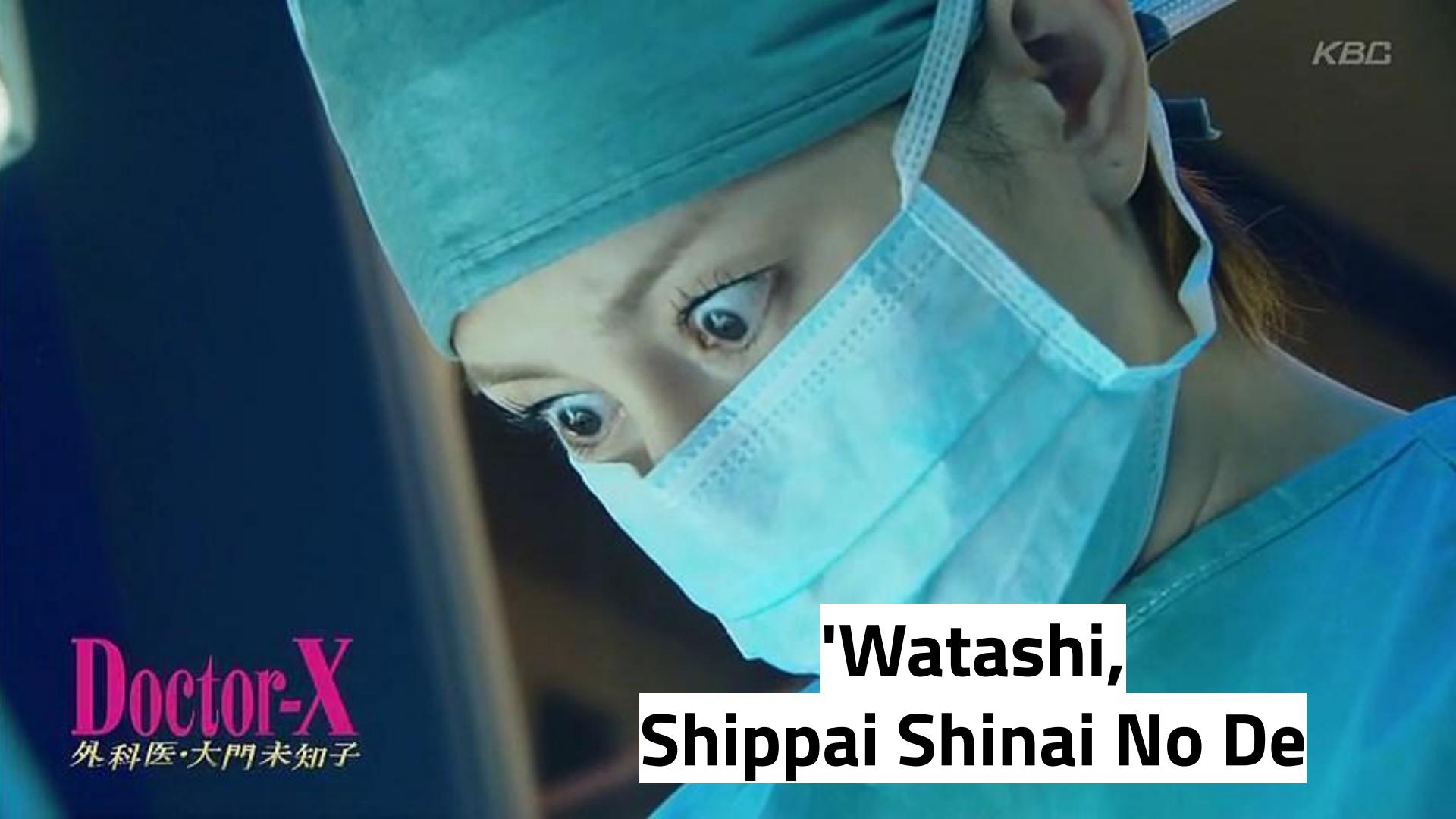
**Finding a Developer is Hard, find
the good one is Harder and**

Find the best one is Hardest!

That's the fact!



Balance between Hard Skill and Soft Skill

KBC

Doctor-X

外科医・大門未知子

'Watashi,
Shippai Shinai No De

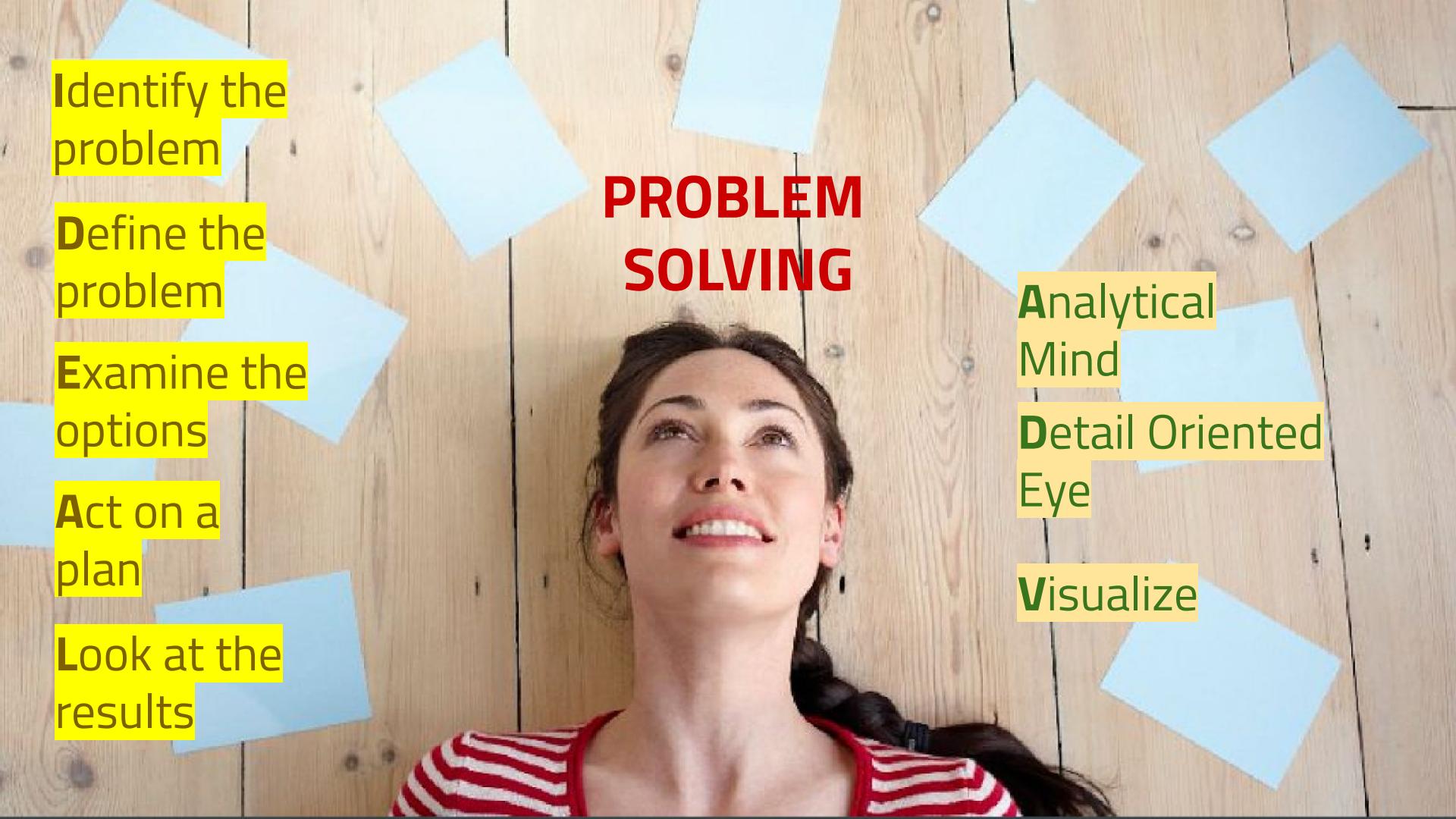
A surgeon wearing a white surgical coat and a blue surgical mask is shown from the chest up. They are focused on their work, with their hands visible at the bottom of the frame. The background is slightly blurred.

"Surgeon's **Competency** is determined by **basic training**, The **Passion** for learning how to operate and **watching skilled surgeon** at work. Like a river flowing constantly, **repeat the basic techniques** to create a clear final operative field. That's the **ideal** operation.

Daimon Michiko



“Cutting wood is a base skill of Carpentry, just like problem is the base skill of Software Development” - *John Sonmez*



Identify the
problem

Define the
problem

Examine the
options

Act on a
plan

Look at the
results

PROBLEM SOLVING

Analytical
Mind

Detail Oriented
Eye

Visualize

Computational Thinking



"Computational Thinking is the thought processes involved in formulating problems and their solutions so that the solutions are represented in a form that can be effectively carried out by an information-processing agent."

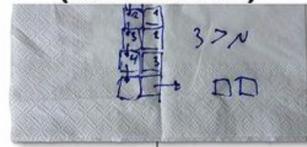
Jeannette M Wing
Columbia University



*Generalization/Abstraction
Decomposition
Algorithm*

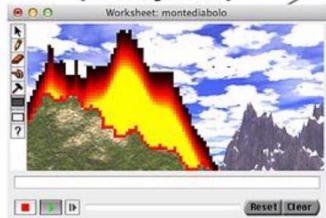
Problem Formulation

(abstraction)

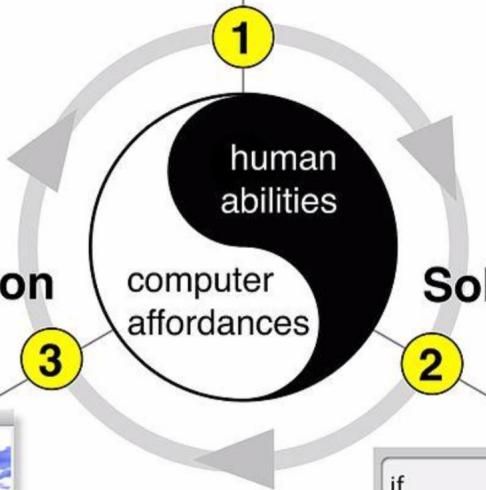


"how does a mudslide work?"

Solution Execution & Evaluation (analyses)



visualize the consequence of thinking



Solution Expression (automation)

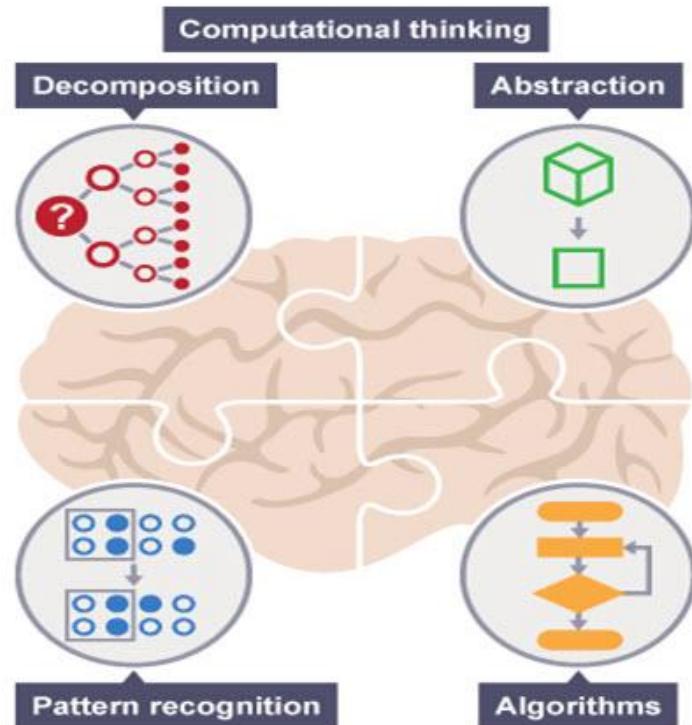


build simple model of gravity

Characteristics

- ▶ **Formulating problems** in a way that enables us to use a computer and other tools to help solve them
- ▶ Logically **organizing** and **analyzing** data
- ▶ **Representing** data through abstractions such as models and simulations
- ▶ **Automating** solutions through algorithmic thinking (a series of ordered steps)
- ▶ **Identifying, analyzing, and implementing** possible solutions with the goal of achieving the most efficient and effective combination of steps and resources
- ▶ **Generalizing** and **transferring** this problem solving process to a wide variety of problems

Technique



Attitude determines who you are

People will respect you if you have a positive attitude. Achievement can be achieved by doing with positive attitude.
Without good attitude there's no good things you do for the first five principles!



Communication

Have an **empathy**, able to work in the **team** and give the **positive vibes** in and collaboration



Photo by basecamp

We are working with human, aren't we ?

Good Communication

Being Specific

Good Writing

Explain Clearly

All Credits to the team

Confidence

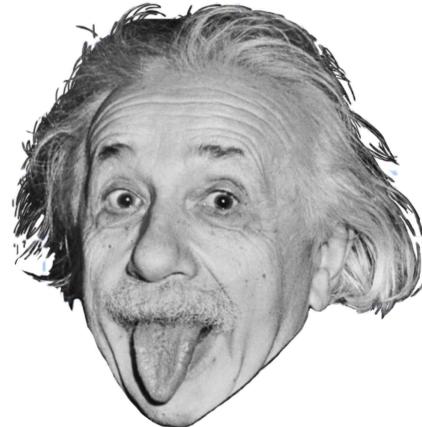
Humility

Empathy

A red apple with a small green stem and leaf sits atop a stack of four books. The books have various colored covers: orange, blue, yellow, and green. They are positioned in the lower-left corner of the frame. The background is a chalkboard with faint, illegible markings. In the foreground, the edge of a wooden desk is visible.

Continuous Learning

*"If you can't explain it simply,
you don't understand it well
enough."*



HOW?

READ Books Blogs Social Media Post Code

GO to Conferences

Be Part of Community

WATCH Videos

TAKE Courses

DISCUSS

TALK



Your **CAREER** is your **RESPONSIBILITY**

Spend time caring for their profession



Curiosity

Make you relentless to solve the problem without complaining!

"If you give people tools, [and they use] **their natural ability and their curiosity**, they will develop things in ways that will **surprise** you very much beyond what you might have expected."

Bill Gates



Makes your mind active

Makes your mind observant of new ideas.

It brings new excitement to Our Life



BEGIN.



Java HTML5 CSS JavaScript Python Scala Clojure Maven Groovy Gradle Linux IDE Spring Android

Learn/Know Your Tools



Design Principles Design Patterns Refactoring Scrum TDD Continuous Integration Kanban UML PP

A close-up photograph of a dark wood gavel with a silver metal head, resting on a light-colored wooden surface. In the background, a red leather book or folder is partially visible.

No Language or
Platform
Fanaticism

PRACTICE

to keep your skills sharp and ready

Coding Skills

A close-up photograph of a person's hands interacting with a glowing electronic circuit board. The hands are positioned over a light blue, illuminated area of the board, which appears to be a touch-sensitive component. The background is dark and blurred, showing some colorful lights and other electronic components, suggesting a workshop or laboratory environment.

Keep Sharpening the fundamentals

Algorithm

Data Structure

Programming Approach

Being Clean, Honest and Responsible.

Delight your users and your team with your work

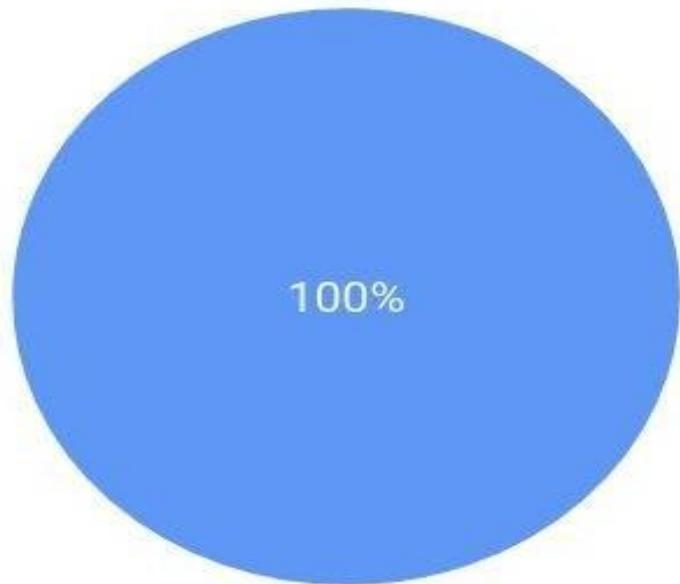
A photograph of two surgeons in blue scrubs and surgical masks performing a procedure in an operating room. One surgeon is in the foreground, focused on the task, while another is visible behind him. The background shows medical monitors and equipment. The lighting is dramatic, emphasizing the blue of their scrubs.

It is a **crime** if a
surgeon does not
clean his hands



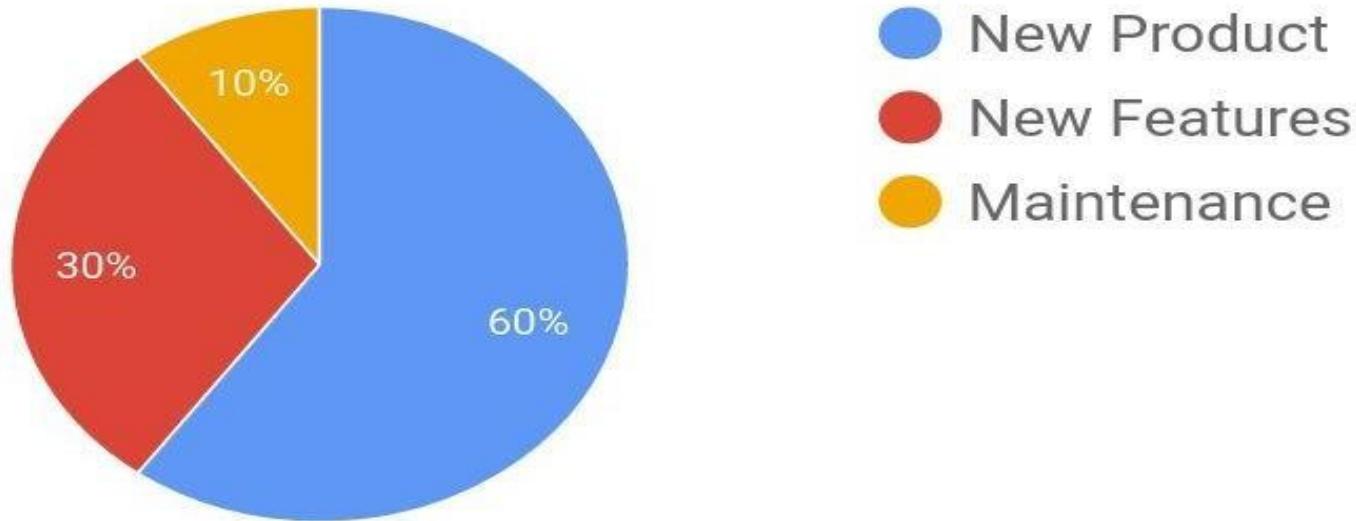
Your code looks like a plate of spaghetti?

Beginning



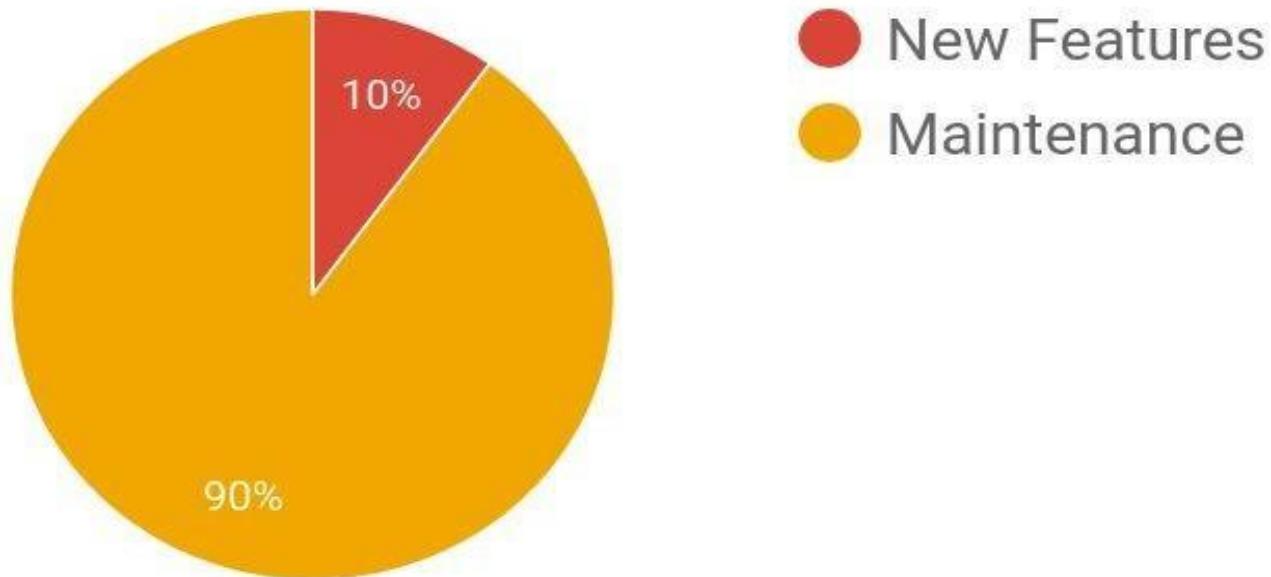
Source: © GDP Labs 2017

Great Company



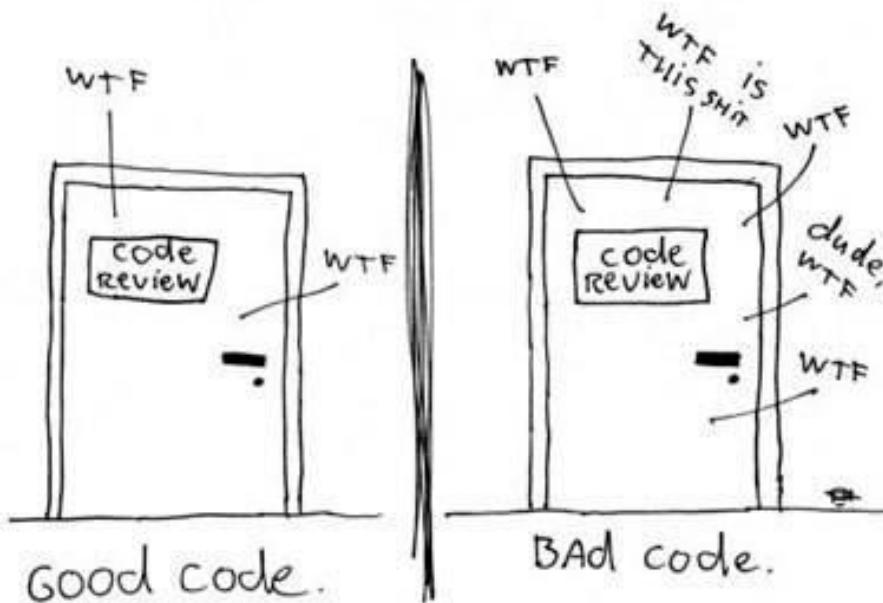
Source : © GDP Labs 2017

Bad Company



Source: © GDP Labs 2017

The ONLY VALID MEASUREMENT OF CODE QUALITY: WTFs/minute



(c) 2008 Focus Shift

Clean Code

Concise

Readable

Easy To Change

No Duplication

Simple

Efficient

Less Bug (Or even no
Bug)

Characteristics of Clean Code

Focused - not doing too much

Meaningful Names

Small functions

No bad comments Well
structured

Complies with DRY rule

Have unit tests

Unit Testing

Reduces Bugs in New and Existing Features

Good Documentation

Reduces the Cost of Change

Improves Design

Allows Refactoring

Forces You to Slow Down and Think

Makes Development Faster

Reduce Fear

It is Fun

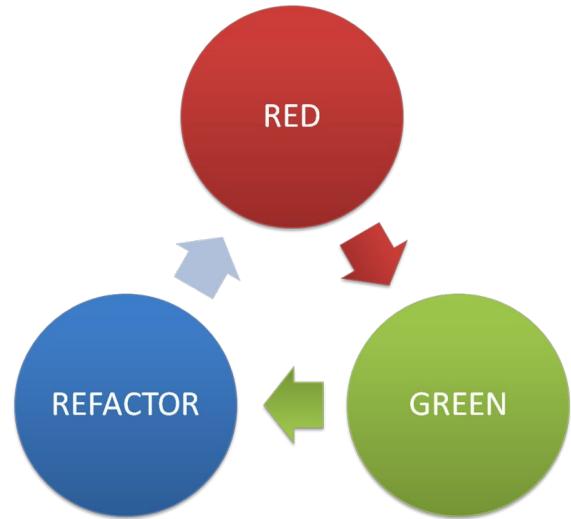
Test Driven Development

Best way to have **GOOD UNIT TESTS**

Changes your **MINDSET** about coding and

testing Makes you **MORE
PRODUCTIVE**

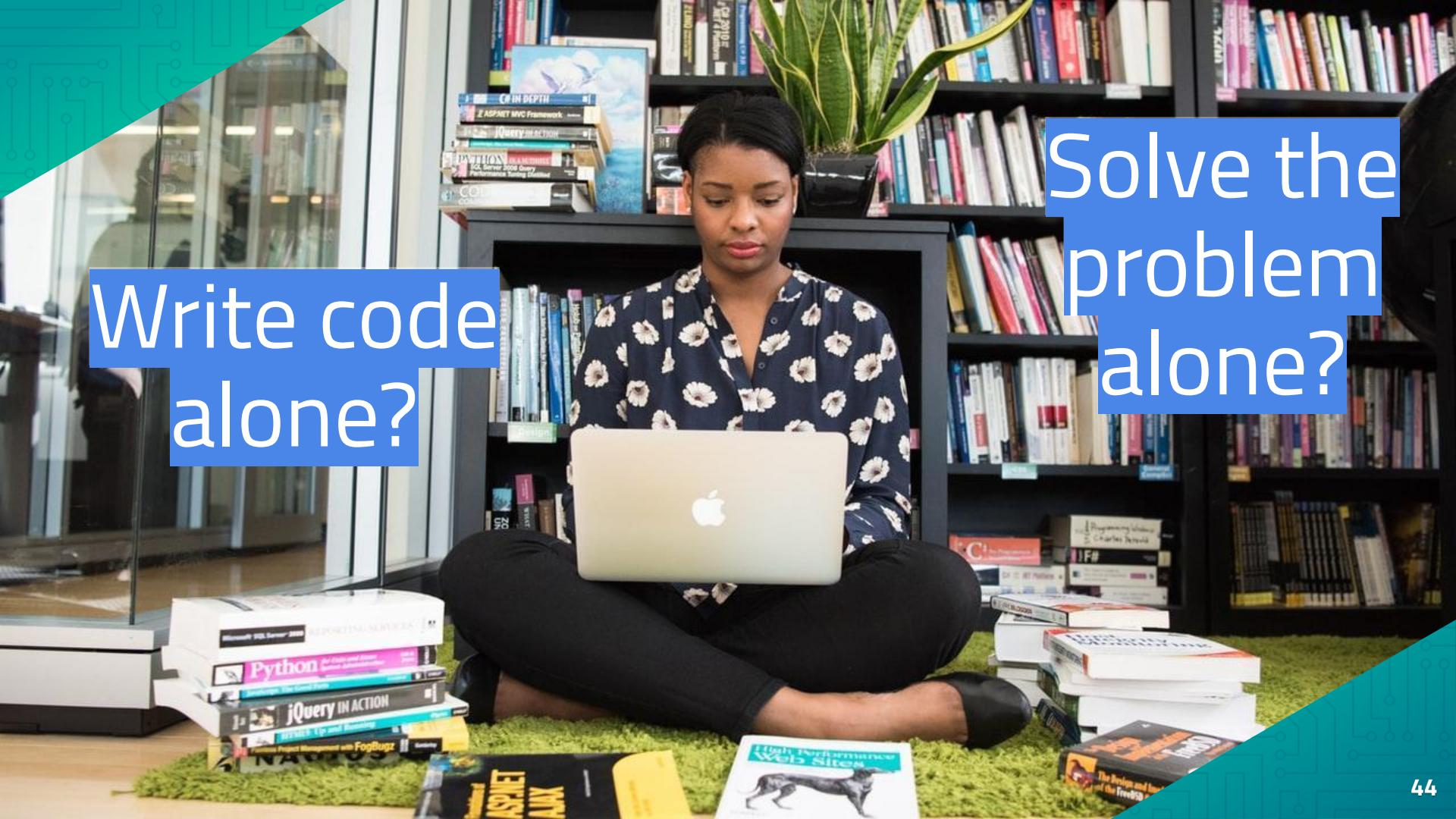
Makes you **BETTER DEVELOPER**



REFACTORING

Restructuring existing code without changing its external behavior
Improving the design of an existing code base

Stabilize pursuit of perfection with pragmatism

A photograph of a woman with dark hair, wearing a blue floral blouse and black pants, sitting cross-legged on a green carpet in a library. She is looking down at her open white laptop. She is surrounded by many books, some stacked on the floor in front of her and others on shelves behind her. A large window is visible to the left, and a bookshelf filled with books is to the right. The image has a teal diagonal bar on the left and a blue rectangular overlay on the right.

Write code
alone?

Solve the
problem
alone?

A photograph showing four people working on a computer. A large monitor in the center displays a code editor with multiple files open. One file shows the following code snippet:

```
public class Main {    public static void main(String[] args) {        System.out.println("Hello, World!");    }}
```

The monitor is a BenQ brand. In the foreground, two people are visible from behind: one wearing a dark shirt and another in a light blue shirt. Another person's head is visible above the monitor. The background is blurred.

Do Pairing Programming

Multiple Point of View

Guaranteed Focus

Continuous Code Review

Fewer Blockage

Reduce Development Time

Masking Distraction

THANKS!

Any questions?

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