
Code Review // Clean Code
Episode 1 - DRY

This is an active learning class

# How do you call those characters

;

\

[

# How do you call those characters

;

Semi column

\

Back slash

[

Bracket

# How do you call those characters

{ | - | _



# How do you call those characters

{ | - | _

Brace | Minus | Underscore

# How do you call those characters

| " | ' | ~ |
| --- | --- | --- |
| | | |

# How do you call those characters

| | | |
|---|---|---|
| " | ' | ~ |
| Double quote | Quote | Tilde |

# Objectives of this course (16h)

- General principles of **good coding**
- Perform some **code review** by peer

# Evaluation of this course

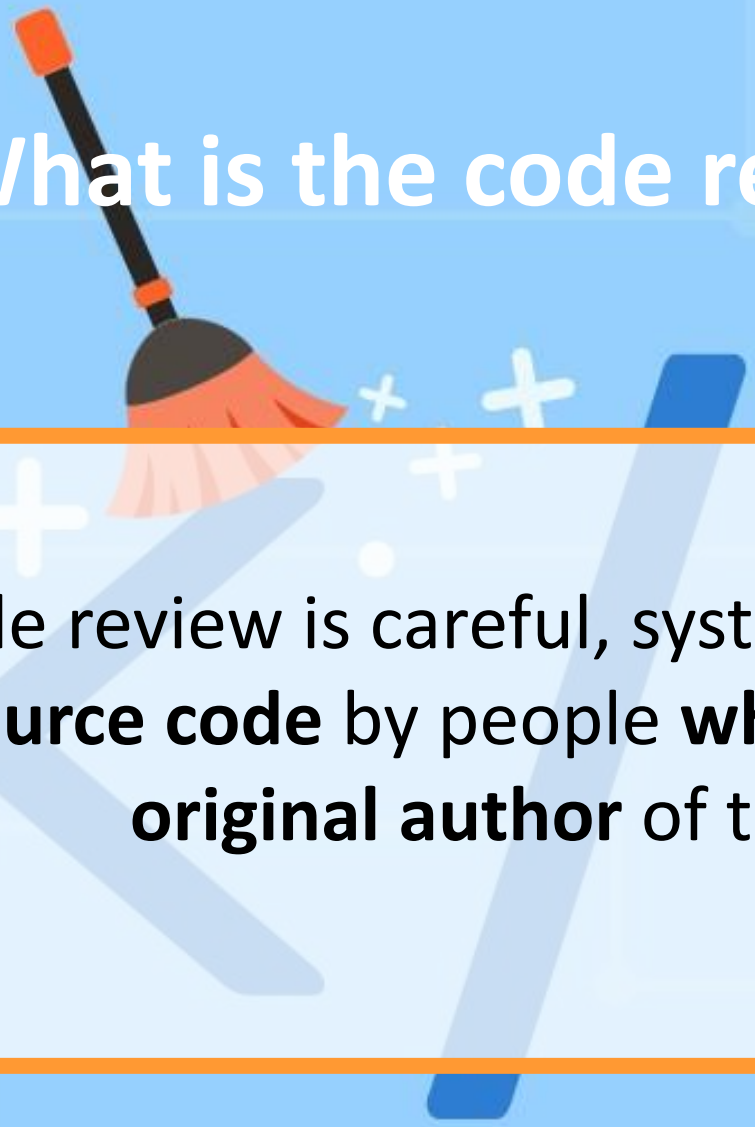
**30 %**

Exercises & Participation

**70 %**

Final exam

# What is the code review ?



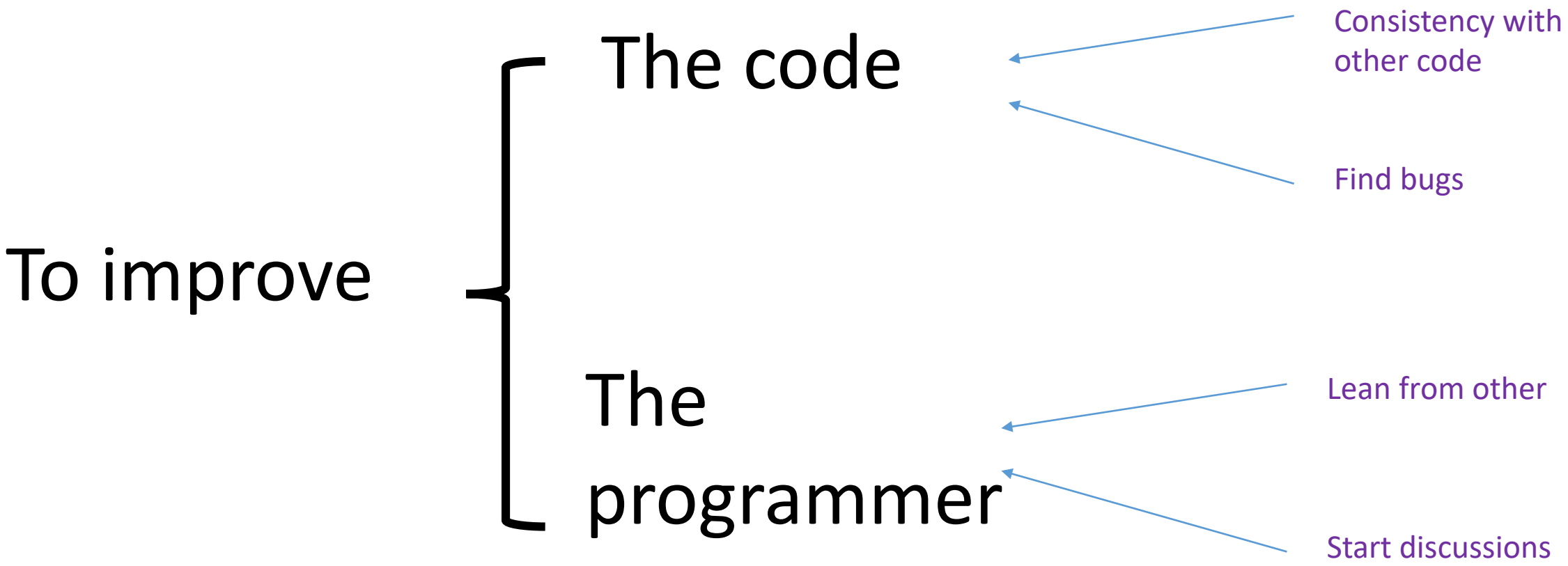
Code review is careful, systematic **study of source code** by people **who are not the original author** of the code

# Why code reviewing ?

To improve

- The code
- The programmer

# Why code reviewing ?



# Your code will then be

Safe from
**BUGS**

Easy to
**understand**

Ready for
**change**

# Road map

Do not repeat yourself

Fail fast

Use mean full  names

Use comments and spaces

Avoid magic numbers

One Purpose For Each Variable

Function Say what they do

Avoid multiple returns

Use objects to protect your data

# Road map

**Do not repeat yourself**

Fail fast

Use mean full  names

Use comments and spaces

Avoid magic numbers

One Purpose For Each Variable

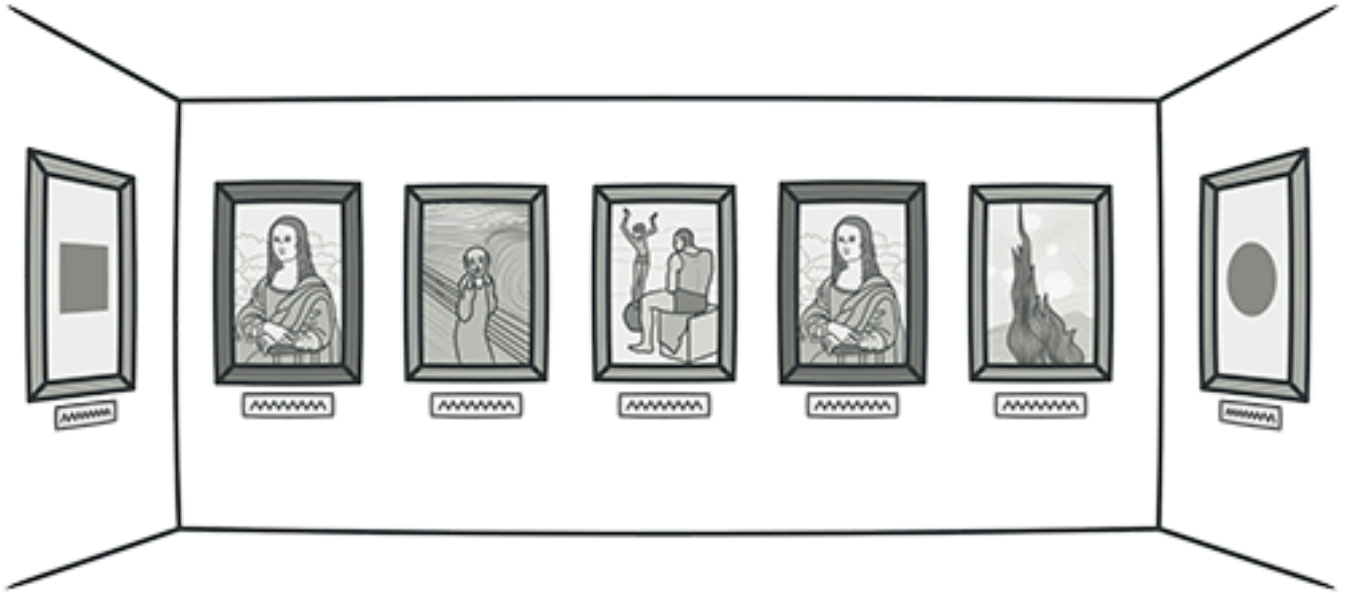
Function Say what they do

Avoid multiple returns

Use objects to protect your data

# DRY

## *“Do not Repeat Yourself”*



What is the risk of **duplicated** code ?

# Quiz

Prepare your **flash cards** and… be ready to vote !

# What is your favorite food ?

A. Rice
B. Rice
C. All of above, but especially rice
D. None of above… but I like rice

```
public static int dayOfYear(int month, int dayOfMonth, int year) {
    if (month == 2) {
        dayOfMonth += 31;
    } else if (month == 3) {
        dayOfMonth += 59;
    } else if (month == 4) {
        dayOfMonth += 90;
    } else if (month == 5) {
        dayOfMonth += 31 + 28 + 31 + 30;
    } else if (month == 6) {
        dayOfMonth += 31 + 28 + 31 + 30 + 31;
    } else if (month == 7) {
        dayOfMonth += 31 + 28 + 31 + 30 + 31 + 30;
    } else if (month == 8) {
        dayOfMonth += 31 + 28 + 31 + 30 + 31 + 30 + 31;
    } else if (month == 9) {
        dayOfMonth += 31 + 28 + 31 + 30 + 31 + 30 + 31 + 31;
    } else if (month == 10) {
        dayOfMonth += 31 + 28 + 31 + 30 + 31 + 30 + 31 + 31 + 30;
    } else if (month == 11) {
        dayOfMonth += 31 + 28 + 31 + 30 + 31 + 30 + 31 + 31 + 30 + 31;
    } else if (month == 12) {
        dayOfMonth += 31 + 28 + 31 + 30 + 31 + 30 + 31 + 31 + 30 + 31 + 31;
    }
    return dayOfMonth;
}
```

How many times is the number of days in April written in **dayOfYear()**?

A 1 B 6 C 8 D 9 E 12

```
public static int dayOfYear(int month, int dayOfMonth, int year) {
    if (month == 2) {
        dayOfMonth += 31;
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Suppose our calendar changed so that February really has 30 days instead of 28.
How many numbers in this code have to be changed?

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public static int dayOfYear(int month, int dayOfMonth, int year) {
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Another kind of repetition in this code is dayOfMonth+=.
Assume you have an array int[] monthLengths = new int[] { 31, 28, 31, 30, ..., 31}.
Which of the following code skeletons could be used to DRY the code out enough so that dayOfMonth+= appears only once

A for (int m = 1; m <= month; ++m) { ... }

B switch (month) { case 1: ...; break; case 2: ...; break; ... }

C while (m < month) { ...; m += 1; }

D if (month == 1) { ... } else { ... dayOfYear(month-1, dayOfMonth, year) ... }

```
public static int dayOfYear(int month, int dayOfMonth, int year) {
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D if (month == 1) { ... } else { ... dayOfYear(month-1, dayOfMonth, year) ... }

# LESSSON LEARNT

Duplicated code :

There’s a bug in both copies, and some maintainer fixes the bug in one place but not the other.

# LET’ DRYYYYYY

**ACTIVITIES 1..3**

On Google classroom

THE LAST NAME

# LET’ DRYYYYYY

**ACTIVITIES 4..5**

On Google classroom

THE HTML IMG

# Mind Map

Storytelling is the process of using fact and narrative to **communicate something** to your audience.