INTRODUCTION

Java clean code

Outline

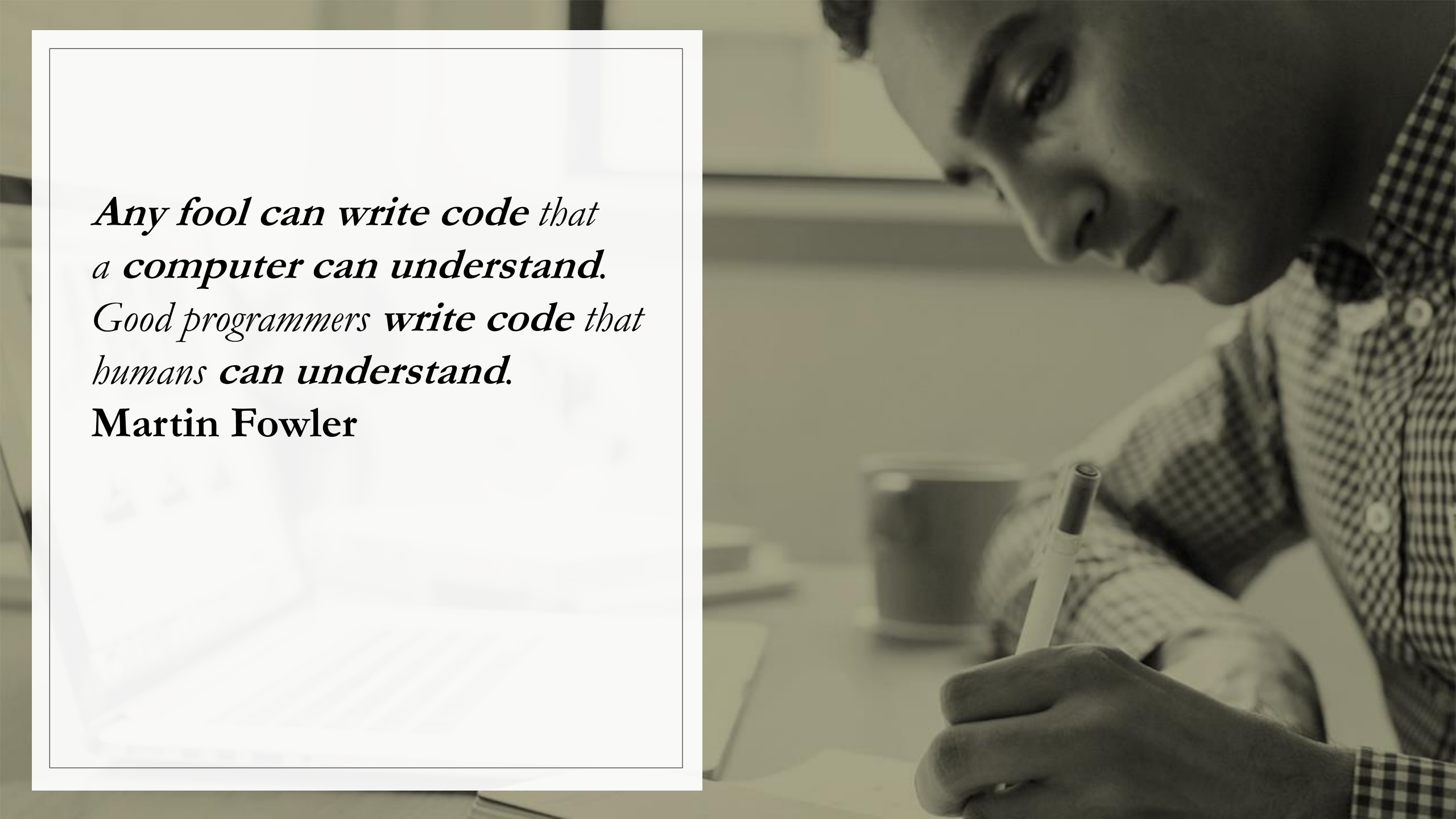
Lesson 1.
Clean code

Lesson 2.
Names

Lesson 3.
Methods

Lesson 4.
Classes

Lesson 5.
Comments



Any fool can write code *that a* ***computer can understand.*** *Good programmers* ***write code*** *that humans* ***can understand.***

Martin Fowler

Grady Booch

”Clean code is simple and direct. Clean code reads like well-written prose. Clean code never obscures the designer’s intent but rather is full of crisp abstractions and straightforward lines of control.”

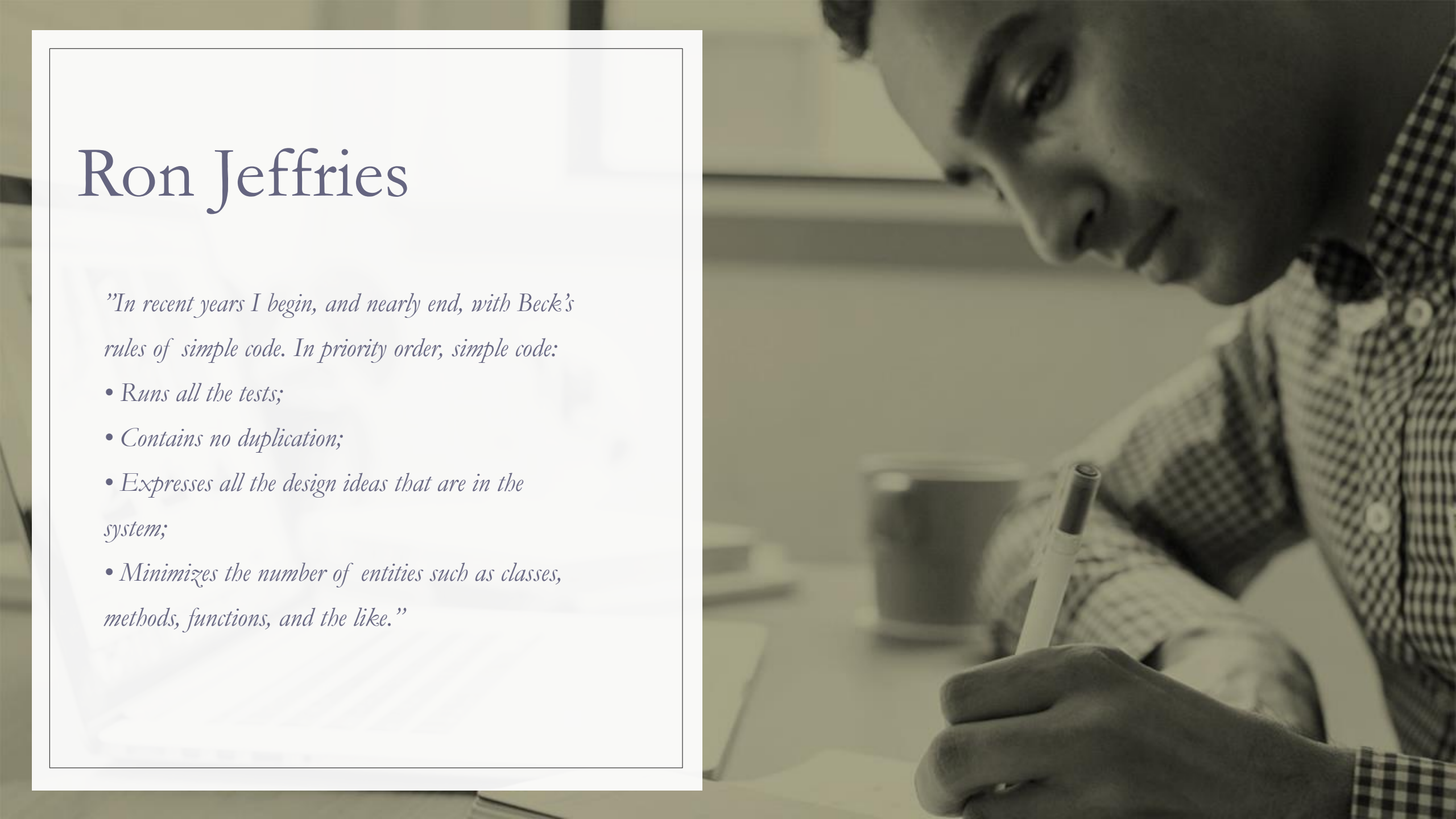
Rod Johnson

”If you know what something does, you got a pretty good chance guessing the name of the Spring class or interface for it.

Ron Jeffries

"In recent years I begin, and nearly end, with Beck's rules of simple code. In priority order, simple code:

- *Runs all the tests;*
- *Contains no duplication;*
- *Expresses all the design ideas that are in the system;*
- *Minimizes the number of entities such as classes, methods, functions, and the like."*



Bad code

- Tight coupling (Spagetti)
- Duplication of code
- Huge Classes and methods
- Not maintainable

Bad code

- If() {
- if() {
- if() {
- if() {
- if() {
- if() {
- if() {
- if() {

Bad code

```
37
38      public static boolean isNull(int value) {
39          Integer integer = new Integer(value);
40  Dead code f (integer == null) {
41              return true;
42          } else {
43              return false;
44          }
45      }
46
47
48
```

Bad code

Maybe one if statement could do the job.

```
boolean isUserAuthorized = user.isSuperAdmin();
if(!isUserAuthorized){
    isUserAuthorized = isUserAdminOfEntity1();
}if(!isUserAuthorized){
    isUserAuthorized = isUserAdminOfEntity2();
}if(!isUserAuthorized){
    throw new AccessDeniedException(
    "Authenticated user is not admin ");
}
```

Bad code

Are you really running? No, are you really running?

```
switch(kafkaStreams.state()){
    case RUNNING: {
        if (kafkaStreams.state().isRunning()){
        countDownLatch.countDown();
        }
    }
break;
};
```

Bad code

Difference matters

```
if(CATEGORY_NORMAL.equalsIgnoreCase(categorie)){
    return assignGroupStartWithPrefix(assignmentGroups);
}else if(CATEGORY_EXTERNAL.equalsIgnoreCase(categorie)){
    return assignGroupStartWithPrefix(assignmentGroups);
}
```

Bad code

There is a slight chance this googleApiClient object would change by a mysterious power !!

```
private void EnableGPSAutoMatically() {
    GoogleApiClient googleApiClient = null;
        if (googleApiClient == null) {
            googleApiClient = new GoogleApiClient.Builder(this).
            addApi(LocationServices.API).addConnectionCallbacks(this).
            addOnConnectionFailedListener(this).build();
    /* about 50 lines of code were here ... * all depends on this if
     *  statement ... ! Actually the whole method
     *  * depends on this if statement ! */
        }
    }
```

Bad code

Who needs names?

```
private HashMap<String, Tuple6<float[],
String[], String[], String[], String[], String>>
memberNameChangedToProtectTheInnocent = null;
```

Bad code

Throw an exception - the easy way

```
private <T> Supplier<T> abort(Class<T> exception){
    return () -> {
        try {
            return exception.newInstance();
            } catch (InstantiationException | IllegalAccessException e) {
                throw new RuntimeException(e); } }; }
throw abort(MyException.class).get();
```

Good code Summary

- Easy to read and understand
- Easy to maintain
- Easy to add new functionality
- Loose coupling

Course Progress

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Clean code	Names	Methods	Classes	Comments


THANK YOU!