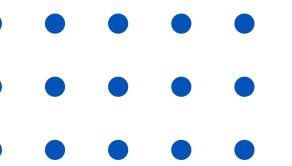


Group 1: _underscore



The Broken Window Theory & The Boy Scout Rule

Members

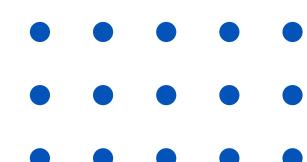
22120238 - Nguyen Minh Nguyen

22122048 - Nguyen Trong Nhan

22120256 - Ma Thanh Nhi

Lecturer

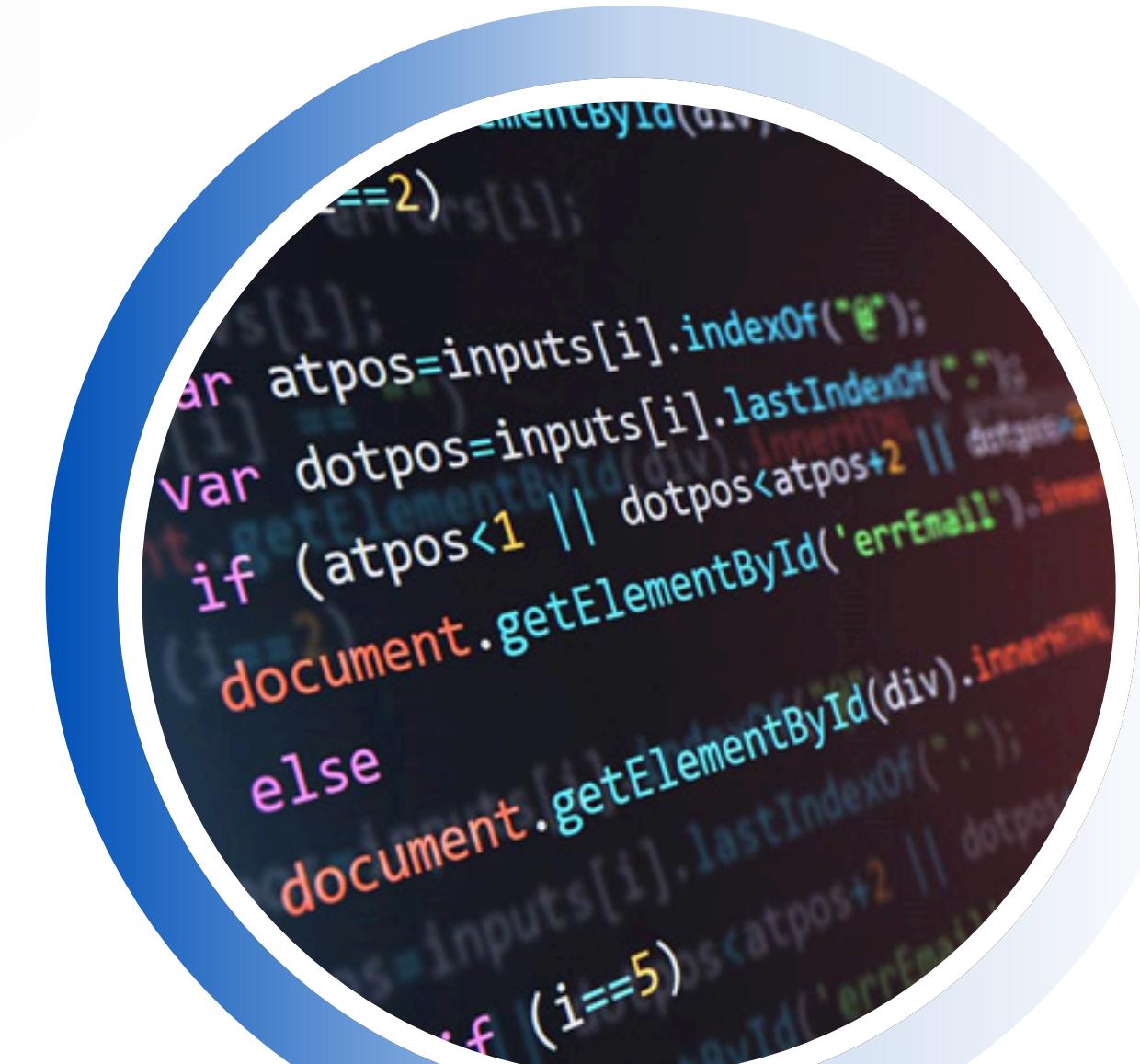
Tran Duy Thao



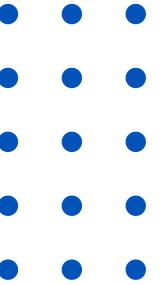
CONTENT

1. The Broken Window Theory

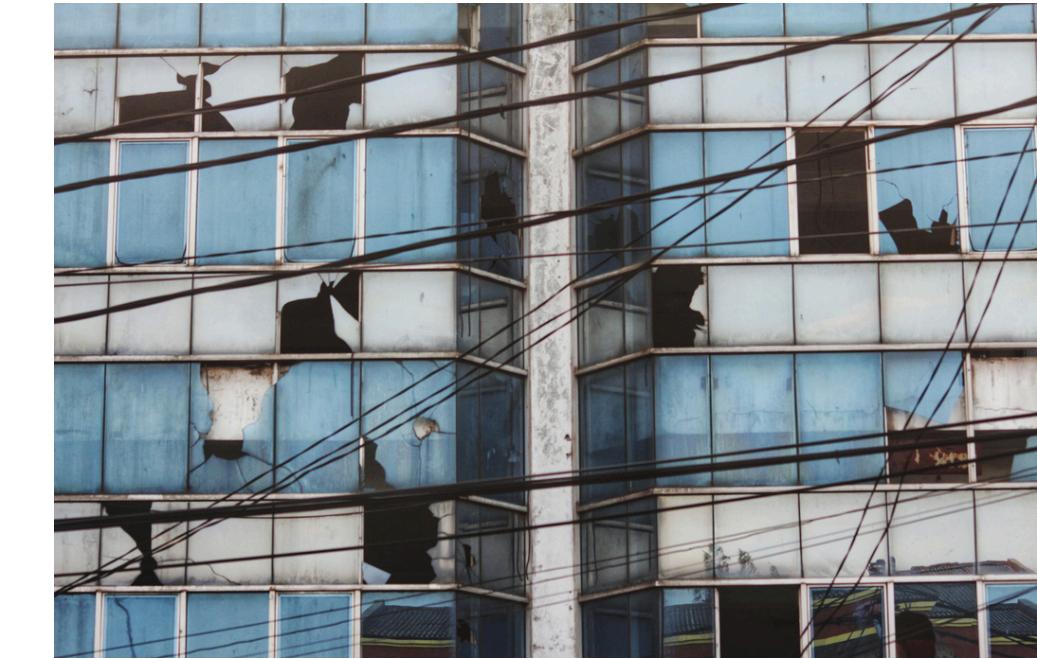
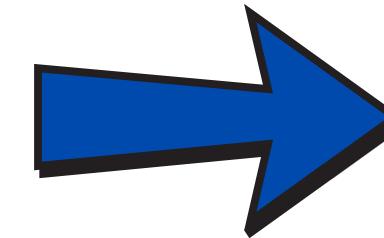
2. The Boy Scout Rule



THE BROKEN WINDOW THEORY



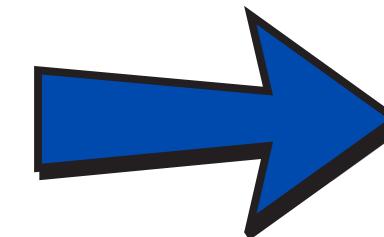
- In society



- In programming

- ● ●
- ● ●
- ● ●
- ● ●
- ● ●

```
bool checkValidPhoneNumber(string phoneNumber) {  
    // Add to pass unit test  
    if (phoneNumber == "0918666222") {  
        return true;  
    }  
  
    if (containsValidCode(phoneNumber)) {  
        return true;  
    }  
    else {  
        return false;  
    }  
}
```



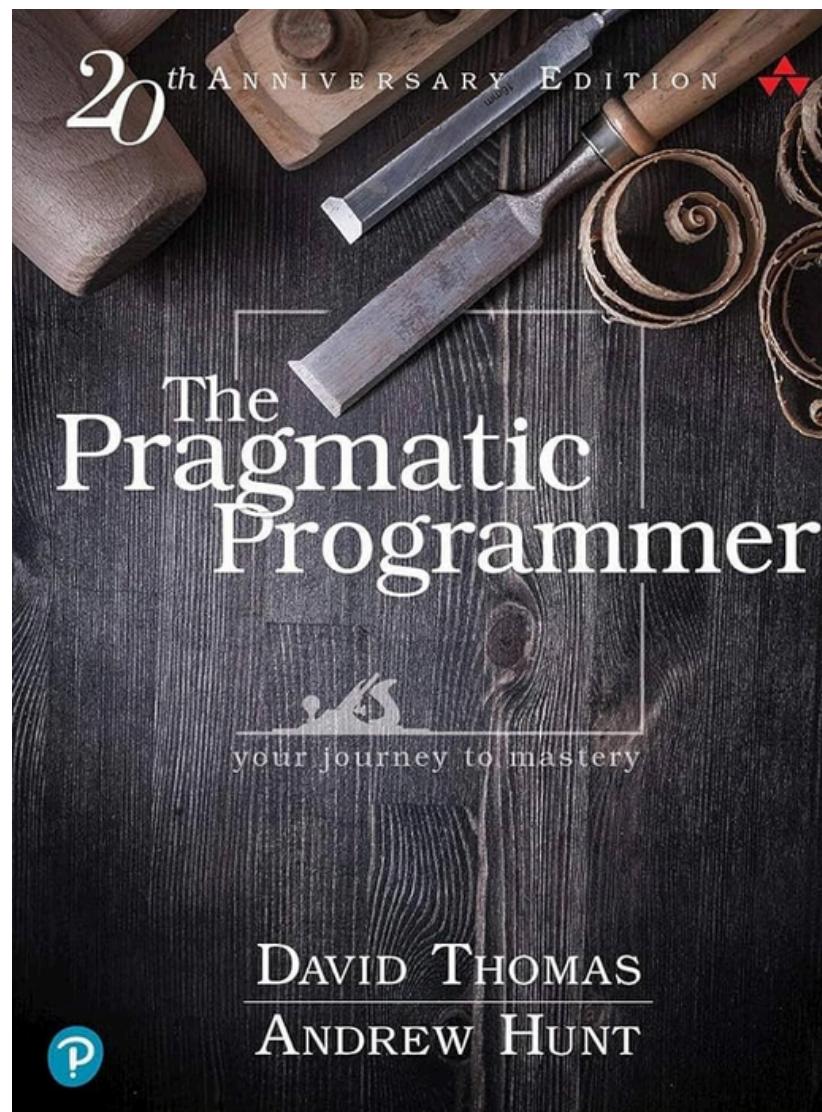
```
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    // Add to pass unit test  
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        return true;  
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    }  
    else {  
        return false;  
    }  
}
```

Bad code
everywhere !

THE BROKEN WINDOW THEORY



- ## • In programming



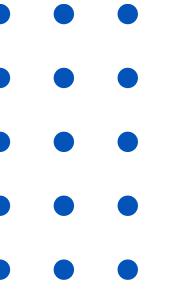
Andrew Hunt



David Thomas

If you keep leaving bad code or practices here and there, people will think that this is acceptable and the snowball keeps growing until the point your whole codebase is infected.

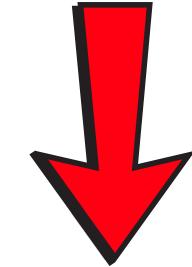
THE BROKEN WINDOW THEORY



- Example

A programmer needs to connect to a database, and instead of using environment variables or a configuration file, he hardcodes the connection details directly into the source code.

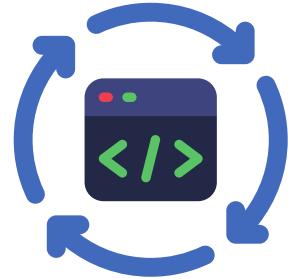
```
1 Connection conn = DriverManager.getConnection("jbdc:postgresql://localhost:5432/mydb", "admin", "password123");
```



```
1 string url = System.getenv("DB_URL");
2 string user = System.getenv("DB_USER");
3 string password = System.getenv("DB_PASSWORD");
4 Connection conn = DriverManager.getConnection(url, user, password);
```

THE BROKEN WINDOW THEORY

- Ways to avoid the Broken Window Theory



Refactor regularly: Identify and fix bad code as early as possible to prevent technical debt.



Enforce code reviews: Ensure every piece of code follows best practices before merging.



Follow the Boy Scout Rule: Improve any messy code you encounter, even if it's not your task.



Write and maintain tests: Always include unit tests to prevent untested code from spreading.

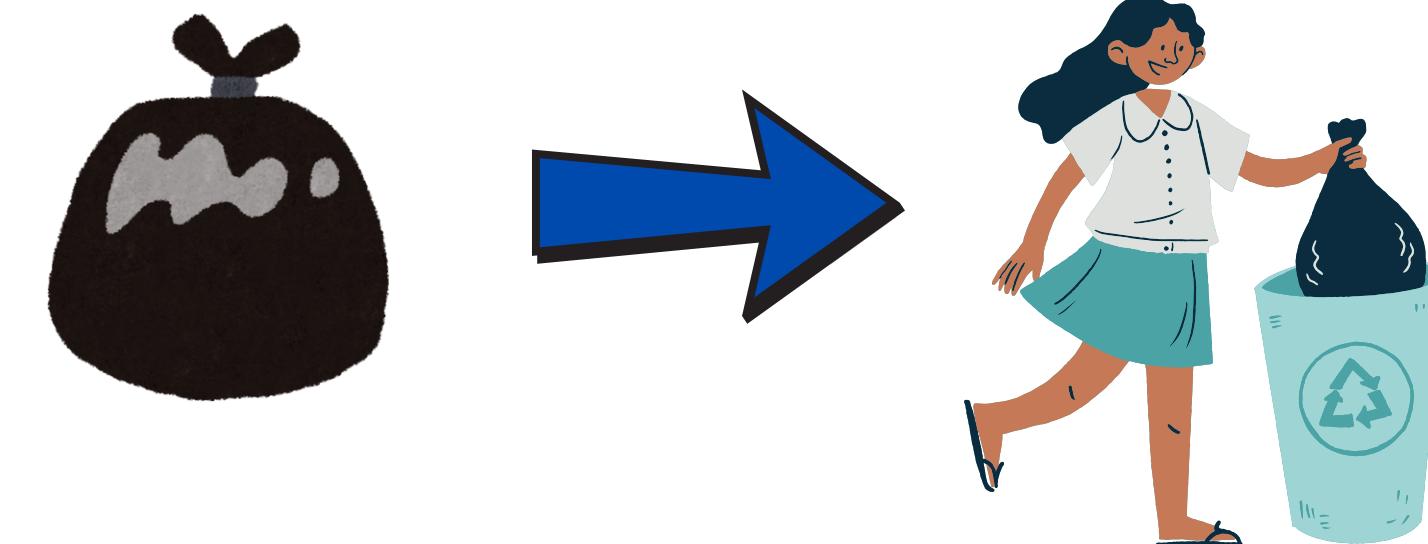
THE BOY SCOUT RULE

- Define



The Boy Scout Rule in software development states that developers should always leave the code they work on in a better state than they found it.

It's likely that when you see trash on the street, you should pick it up and put it in a trash bin, even if it's not yours.



THE BOY SCOUT RULE

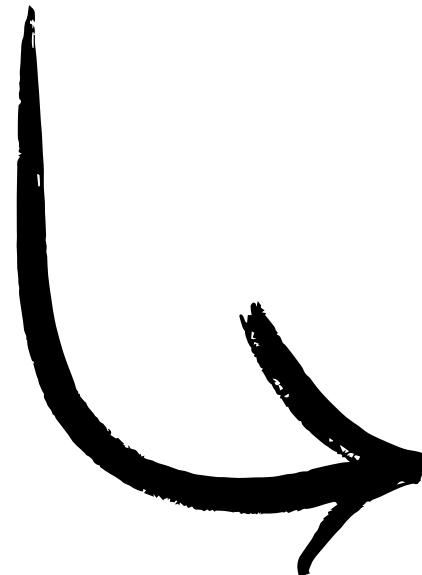
- Practice in programming

- Improve any messy code you encounter, even if it's not your task.
- Usually used to avoid The Broken Window Theory

Before

```
1 public class MathHelper
2 {
3     public int add(int a, int b) { return a + b; } // Bad naming, inconsistent formatting
4 }
```

• • •
• • •
• • •
• • •
• • •



After

```
1 public class MathHelper
2 {
3     public int Add(int a, int b) // Improved method name (PascalCase)
4     {
5         return a + b; // Improved formatting
6     }
7 }
```



Thank You