

Object Calisthenics: Don't use the ELSE Keyword

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Don't use the ELSE keyword ???



Why avoiding the Else keyword ?

- Do you remember the last time you saw a nested conditional in the code? Did you enjoy reading it?
No!
- *If/else* blocks decrease readability
- Using *if/else* can be seen as a code smell around breaking Single Responsibility:
It normally means that you are doing more than a one behavior in your method
- The goal of this rule is to generate a cleaner and faster code because it has fewer execution flows and reduce complexity that's why the code gets much more readable

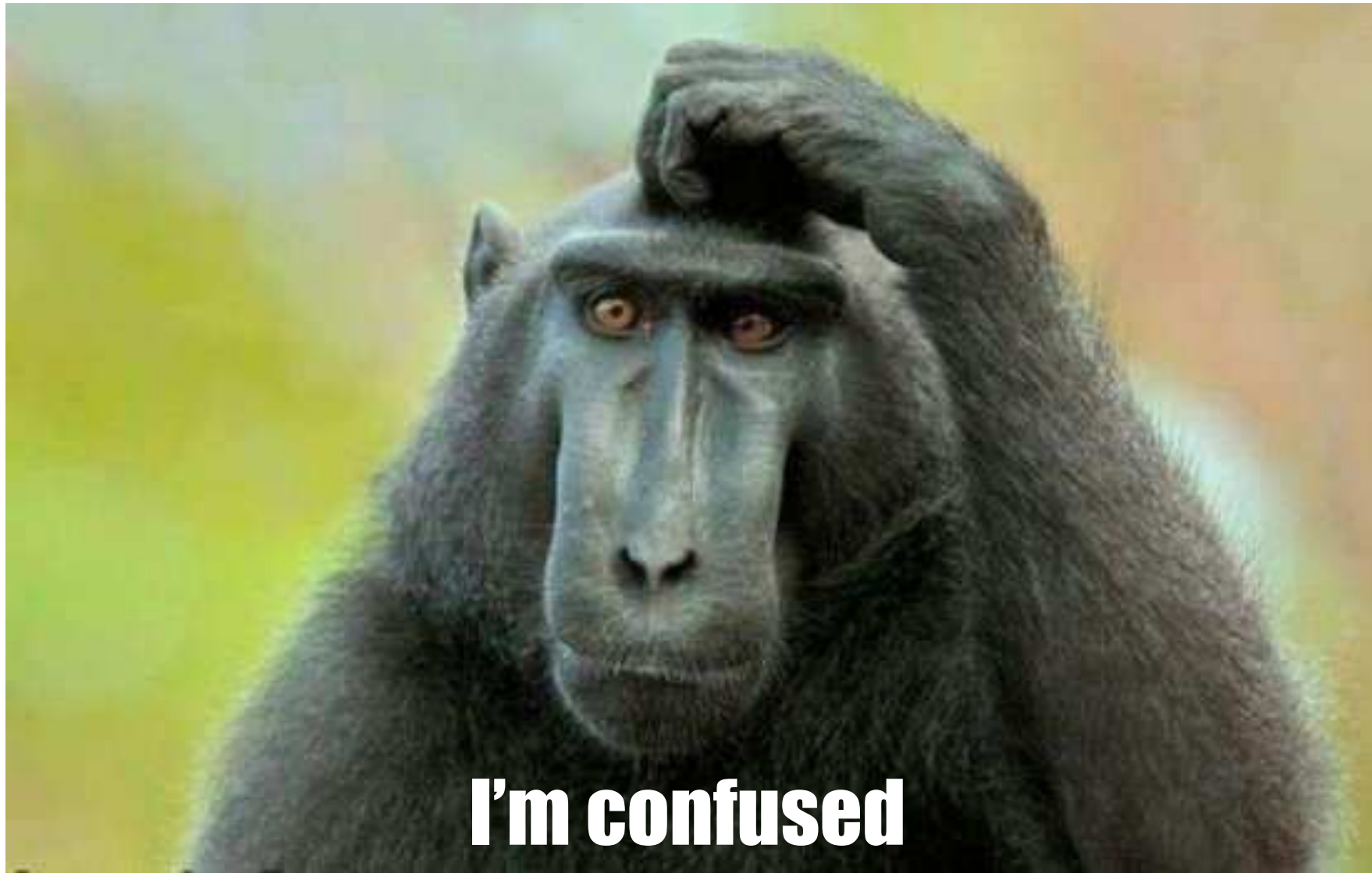
Is this code easy to read ?

```
class RegereDatenCalculator {

private RegereDatenCalculator() {}

public DatenCalculator(ZahlungsvorbereitungData zu, RegereDatenData re) {
    if (re != null) {
        zu.handleRequest(re);
        return zu.getRequere();
    } else if (zu.handleRequest() != null) {
        return zu.getRequere();
    } else {
        StringBuilder sb = new StringBuilder("RegereDaten Zahlungsvorbereitung re: " + zu.getRequere());
        sb.append("Data\n");
        sb.append("as: " + zu.as());
        sb.append("changed: " + zu.getRequere());
        sb.append("changed: " + zu.getRequere());
        ZahlungsvorbereitungData ar = zu.getRequere();
        if (ar != null) {
            sb.append("ar: " + ar);
        } else {
            sb.append("ar: " + ar);
            sb.append("ar: " + ar);
        }
        return new StringBuilder().append(sb.toString());
    }
}

return DatenCalculator.of(zu, re);
}
```



Early return

```
public void login(String username,String password){  
    if(userRepository.isValid(username,password)){  
        redirect("homepage");  
    } else {  
        redirect("login");  
    }  
}
```

```
public void login(String username,String password){  
    if(userRepository.isValid(username,password)){  
        return redirect("homepage");  
    }  
    redirect("login");  
}
```

Introduce a variable

```
public void login(String username, String password){
    if(userRepository.isValid(username, password)){
        redirect("homepage");
    } else {
        redirect("login");
    }
}
```

```
public void login(String username, String password) {
    String redirectRoute = "homepage";
    if (!userRepository.isValid(username, password)) {
        redirectRoute = "login";
    }
    redirect(redirectRoute);
}
```

Polymorphism

```
public class ProcessOrder {
    public int getOrderGrandTotal(Customer customer, int subTotal) {
        if (customer.type.equals("EMPLOYEE")) {
            return subTotal - 20;
        } else if (customer.type.equals("NON_EMPLOYEE")) {
            return subTotal - 10;
        }
        return subTotal;
    }
}

////////////////////////////////////

public class Employee extends Customer {
    @Override
    public int getDiscount() {
        return 20;
    }
}

public class NonEmployee extends Customer {
    @Override
    public int getDiscount() {
        return 10;
    }
}

public class ProcessOrder {
    public int getOrderGrandTotal(Customer customer, int itemAmount) {
        return itemAmount - customer.getDiscount();
    }
}
```


How can you avoid Else blocks ?

- Early return
- Introduce a variable
- Polymorphism

- Null Object Pattern
- Strategy Pattern
- State Pattern

Refactored code

```
class Regenerationscalculator {  
  
    private Regenerationscalculator () {}  
  
    static Data calculate(ZahlungsvorbereitungData zu, Prozentanteil m, Prozentanteil) {  
        if (m. Prozentanteil.isZahlungsergebnis()) {  
            return DataConverter.getInstance().convertToData(m.getData());  
        }  
        if (zu.isAnzahlErgebnis()) {  
            return zu.getErgebnis();  
        }  
        if (zu.isAnzahlErgebnis()) {  
            return zu.getErgebnis();  
        }  
        throws new IllegalArgumentException("Invalid argument");  
    }  
  
    private static String createErrorMessage(ZahlungsvorbereitungData zu) {  
        StringBuilder sb = new StringBuilder("Prozent Zahlungsergebnis Ergebnis nicht changed WZ, or 00% Ergebnis");  
        sb.append(" Data\n");  
        sb.append(" is Wert: ") .append(zu.isWert());  
        sb.append(" changed Ergebnis: ") .append(zu.getZahlungsergebnis());  
        sb.append(" changed ErgebnisWZ: ") .append(zu.getZahlungsergebnisWZ());  
        ZahlungsvorbereitungData origin = zu.getOriginData();  
        if (origin.isNull()) {  
            sb.append("Origin not null");  
            return sb;  
        }  
        sb.append("Origin Ergebnis: ") .append(origin.getZahlungsergebnis());  
        sb.append("Origin ErgebnisWZ: ") .append(origin.getZahlungsergebnisWZ());  
        return sb.toString();  
    }  
}
```

