

Object Calisthenics

Definitions of calisthenics

Noun

- ① gymnastic exercises to achieve bodily fitness and grace of movement.
"three women swung Indian clubs while performing calisthenics in unison"

Quick recap

- ▶ 9 (?) simple rules
- ▶ Can help achieve
 - ▶ Readability
 - ▶ Maintainability
 - ▶ Comprehensibility
 - ▶ Testability
- ▶ Learn the rules like a pro, so you can break them like an artist

- Pablo Picasso
- Simon Austnes

1. Only one level of indentation per method.
2. Don't use the ELSE keyword.
3. Wrap all primitives and strings (wrap primitive types in classes).
4. First class collections (wrap collections in classes).
5. One dot per line.
6. Don't abbreviate.
7. Keep all entities small.
8. No classes with more than two instance variables.
9. No getters/setters/properties.
- (10. All classes must have state.)

How does object calisthenics help achieve readability?

- ▶ 1. Only one level of indentation per method
 - ▶ Helps to ensure single responsibility
 - ▶ Reduces the size of the unit
- ▶ 3. Wrap all primitives and strings
 - ▶ int -> Square
 - ▶ Objects will have inherent meaning

How does object calisthenics help achieve maintainability?

- ▶ 5. One dot per line
 - ▶ Low coupling
 - ▶ Reduces knowledge needed to enable a behavior

- ▶ Open/Closed principle



```
dog.Body.Tail.Wag()
```



```
dog.ExpressHappiness()
```

How does object calisthenics help achieve comprehensibility?

- ▶ 4. First class collections
 - ▶ All collection-specific behavior in one place
- ▶ 8. No classes with more than two instance variables
 - ▶ More variables, more responsibility – increases complexity

How does object calisthenics help achieve testability?

- ▶ The implementation design will affect test complexity
- ▶ 7. Keep all entities small
 - ▶ Small entities with clear responsibilities
 - ▶ 10 files per package, 50 lines per class, 5 lines per method, 2 arguments per method
- ▶ Less complex tests

Thank you for your attention