Clean Code ch 2, 3

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Weeks	week 2
Courses	SOFTWARE DESIGN

♡ 학습 POINT ♡·˖˚

- meaningful names
- functions

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✦ Ch2. Meaningful Names

Use Intention Revealing Names

- Name of the variable, functions, etc should reveal the intention of them.
  - intention includes, why it is used or needed, what it does, and how it is used.
  - ex. int x → reveals nothing but the data type
  - ex. int numOfDaysPassed→ reveals the intention
- What is implicity of the code?
  - whoever sees the code should be able to figure out the intention of each lines — such as “what is the significance of the value 4 in the if statement?”
- We can improve the implicity of the code by using abstraction.
  - say, you have some if statement where you check whether the value input equals 0.
  - Then, it’s better to use a new function named ‘input.isEmpty’ rather than ‘input == 0’

Avoid Disinformation

- shorter names are better as long as it’s not disinformative
  - meaning, the name should include programmer’s intended meaning
- try not to include the data type into the name as long as it is important
  - ex. ‘accountList’ may be other data type than ‘List’, so try to use like ‘accounts’

Make meaningful distinctions

- if the names are different, then it must have different intentions
  - ex. info and data may means the same thing, so try to avoid using these together
- Some names can be redundant.

    - ex. ‘customerObject’ is redundant that customer will be object generally. So use ‘Customer’ instead
    - if the name needs those kinds of unnecessary information, then it violates the above key points about disinformation

Use pronounceable Names

- use pronounceable names so that you can communicate with others

Use searchable names

- avoid single letter names or numeric constants
    - obviously, it will be hard to search these names
- “The length of a name should correspond to the size of its scope”

Member Prefixes

- avoid using prefixes or suffixes — mostly, it is not part of meaningful name
    - → make a new class if needed

Avoid mental mapping

- this rule deals with single-letter variable names
    - you can use this type of name when the scope is very small (like using int ‘i’ within a loop) and does not conflict with other names within that scope

Class and Methods names

- class name should not be a verb
    - ex. Account (O), DeletePage(X)
- method names should be verb

    - ex. DeletePage(O)
    - also, check the javabean standard for appropriate prefixes for some functions — such as get, set, delete ...

Pick one word per concept

- avoid using same name for different methods
- say, there are same function of many different classes where inputs and outputs are the same → then, you can use the same methods name

Others

- Use CS term — algorithm, math terms, etc
- use the name from problem domain
- add context, if needed
    - however, it's always better to declare a new class rather than add context within the name

✦ Ch3. Functions

Small functions

- It is always better to have shorter functions
    - few lines of 4 or 5 will be best

Blocks and Indenting

- If you need to have few lines within the blocks — meaning within if-else statement or for loop, etc
    - better to have only one line — may be make another function and put a function call within the block

    - + it will be better to have descriptive name of the function rather than the calculation
- ⇒ as a result, the indention within the function should not be greater than one or two

Do one thing

- make one function does one thing
- say, creating buffers, fetching pages, searching, ... must have their own functions
- = One level of abstraction per function

Stepdown rule

- This rule allows the programmer to make a function do one thing — the code should be understandable when some people read from top to bottom

Switch Statements

- switch statements are meant to do several things. However, a programmer can make each switch cases to do one thing

Use Descriptive Names

- similar to the variable names from ch 2, use descriptive names for the functions
- Difference ⇒ long descriptive name is better than short enigmatic name
- let the functions have similar patterns — such as capitalizing the first letter of second (or up) words

Function Arguments

- it’s better to have less arguments

- and it’s better to have no output arguments
- passing single argument = ‘monadic’ form
- two arguments = ‘dyadic’ functions
- three arguments = ‘triads’

Flag functions

- try not to pass boolean variables as an arguments

Arguments Objects

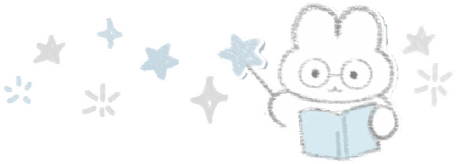
- if you have to pass more than two or three arguments, consider grouping them as an object or a list

Side effect

- side effect creates a temporal coupling
  - temporal coupling — functions that can be called only at certain times?
  - meaning there are certain order of functions

Exceptions to returning error codes

- try using try-catch block to track error
  - and logger to figure out which kind of error has occurred
  - + above, we say that the function should do one thing
  - so, there shouldn’t be any other significant lines after the try-catch block



Ch4. Comment

It is always better not to have comments, but there are some cases where comments can be helpful:

1. To specify copyright and authorship
2. To clarify the return value of an abstract method
3. To explain the programmer's intent of certain lines of code
4. To mark to-dos (but more likely to not be seen in final code)
5. To amplify the importance of some function or code lines

Then what are some cautions with using comments?

1. Be able to specify the purpose of the comment – meaning don't mumble (comments should help the reader, and not confuse the reader)
2. Redundant
3. Not accurate
4. Log for updates or attribution when multiple people worked together
    a. -> try to use git instead (opinion)
5. Place marker – can be helpful but mostly unnecessary
6. NEVER comment out the functions → delete it if unused
7.

Again, if the functions and variables have a good enough name, you won't need to add extra comments for explanation

Ch7. Error Handling

Error handling is important but never over-use it

- Use try-catch exception error handling instead of if-else statement
- Don't return "null" and don't pass "null"

Special case pattern – create a class or configure an object so that it handles a special case