***Cohesion Notes:***

* Function is focused on a single task?
* Cohesion is a measure of how strong a function does one single thing
* Four levels:

1. Strong
2. Extraneous
3. Partial
4. Weak

* It’s an organizational tool
* Modularization = subdividing a program into functions
* Helps keep codebases understandable and contain fewer defects
* Makes them easer to alter and upgrade
* “Cohesion is a measurement of how well a unit of software represents one concept or performs one task.”
* “…there are a finite number of categories of cohesion which capture a broad spectrum of qualities and problems of functions.”

***Strong:***

* All code is directed to one singular problem
* “: all aspects of a function are directed to perform a single task, and the task is completely represented.”
* Cohesion is independent of problem complexity
* Sometimes you’ll have to compromise for weaker cohesion

***Extraneous:***

* “…there exists something unnecessary in the unit of software”
* “…at least one part of a function is not directed towards a single task.”
* “Any time the word “and” is used to completely describe a unit of software, it is probably exhibiting extraneous cohesion.”

***Partial:***

* The task is left incomplete
* Partial isn’t technically below Extraneous, it’s in the same ranking
* Wrapper function is a function that calls multiple functions.

***Weak:***

* “…At least one part of a function is not directed towards performing a single task. Additionally, the task is not completely represented by the function.”
* It’s essentially a combination of Extraneous and Partial Cohesion

7 parts of classical cohesion:

Coincidental There is no meaningful relationship among the elements in a module.

Logical Elements fall into some general category because they all do the same kind of thing.

Temporal Some logical relationship exists, and the elements are related by time. That is, the temporally bound elements are executed in the same time period.

Procedural Performs multiple sequential functions, where the sequential relationship among all the functions is implied by the problem or application statement. Communicational Elements are related by a reference to the same set of input and/or output data.

Sequential The output data (or results) from one processing element serve as input data for the next processing element.

Functional All the elements are related to the performance of a single function.

***Best Practices:***

12.1 Choose function names carefully

12.2 Write accurate and precise comments