Chapter 3: Functions

SUMMARY

Functions are the first line of organization in any program. It is critical because it is one of the primary things to consider when implementing a program.

* Functions should be short and if possible smaller than short.
* Functions should do one thing and should do it only.

**Blocks and Indenting**

* Blocks within statements should be one line long.
* Functions should not be long enough to hold nested structures
* Indent level of a function should not be greater than one or two to make it easy to understand.

**Sections within Functions**

* Functions that do one thing cannot be reasonably divided into sections.

**One Level of Abstraction per Function**

* There is a need that all functions have the same level of abstraction for it is easy to trace who violates a rule.

**Reading Code from Top to Bottom: The Stepdown Rule**

* It is the key to keeping functions short and making sure they do “one thing.” Making the code read like a top-down set of TO paragraphs is an effective technique for keeping the abstraction level consistent.

**Switch Statements**

* By nature, switch statements always do N things. We can’t always avoid switch statements, but we can make sure that each switch statement is buried in a low-level class and is never repeated.

**Use Descriptive Names**

* Choosing descriptive names will clarify the design of the module in your mind and help you to improve it.

**Function Arguments**