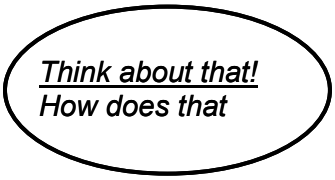
Code as Communication Guided Notes

Instructions:

Fill in the missing blanks in the notes as you watch the course videos for this learning module.

Code is a form of communication.



Code is read many more times than it is written. Often the human audience is not the original author.

Clearly written code is more important than well-written documentation. External documentation has several issues:

- easily becomes inconsistent with the code
- maintained separately, often in multiple files
- can have the user, and not the developer, as its audience

Coding with Clarity

Make your code clear by:

- choosing good names.
- including appropriate comments.
- following best practices in layout and style.

Why are names important? Names are used everywhere in code. Names should:

- follow agreed style guidelines
- be informative (match the item's purpose and behavior)
- be concise
- be memorable and pronounceable
- be consistent.

Coding Defensively

You can protect yourself and your code from bad data, user error, and mistakes.

Don't make assumptions. Always check values first.!

Protection tools include: assertions, making your own good data, exceptions, barricades, and debugging aids.

Coding Processes

To construct a class:

1. create a general design
2. construct class routines
3. review and test class as a whole

   You may need to return to a prior step if problems are discovered.

To construct a routine:

1. design the routine
2. check the design
3. code the routine
4. review and test the routine

   You may need to return to a prior step if problems are discovered.

Writing pseudocode before coding:

- clarifies your thoughts
- makes your code easier to review and maintain.
- supports iterative refinement

> *It may feel like a slow start, but it's actually a faster to good, complete*

Other ways to construct code include test-first development, refactoring, and design by contract.

Summary

Summarize your notes in 2-4 sentences. Identify the key points and the main take-away message.

Code is a form of communication to a couple of different audiences: the computer, yourself, and other programmers. It must be clear so that programmers are able to determine what is going on when working in teams, or when revisiting code. Some of the best practices are appropriately naming variables, including comments, and following style guidelines. These are important so that the code is informative, consistent, and readable.