

Coding Conventions

CS2704: Object-Oriented Software Design
and Construction

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General

- Programs should be design for readability
- Look at coding as the task of “publishing” a program
- Spend just as much effort on getting the **style** and **form** of the code correct as on getting its **contents** correct.

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Readability Implications

- There should be standard conventions for
 - files,
 - naming,
 - and formatting code
- Adopt a set of conventions to make the code readable and consistent

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Coding Conventions (1)

- File conventions should make it easy to find any class without having to look at every file in the system
 - Put only one class per file
 - Use the name of the class for the filename
 - For each namespace create a directory with the same name. Add the files for all classes in the namespace under that directory

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Coding Conventions (2)

- Naming conventions should tell the reader of the code something about each identifier without having to look the identifier up explicitly
 - Use names from the problem description
 - Avoid single letter variables
 - Use consistent capitalization

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Naming conventions

Type	Example	Description
Class Name	Boolean MatchList MatchPair	Mixed-case with the first letter of each word (including the first) in upper-case. Defined types should begin with the package name
Method Name	getFirst initialize	Mixed-case with the first letter of each word except the first in upper-case
Field Name	num_ids name_	All lower-case with words separated by an underscore. If it consists of a single word, an underscore should be appended or prepended to the name
Local Variable	num myname	All lower-case, no underscores
Constant	DEFAULT _VALUE	All upper-case with underscores separating the name. Global constants should begin with the package name.

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Coding Conventions (3)

- Formatting conventions should make the code as readable as possible
 - Use consistent indentation
 - Separate the implementation from the declaration
 - Put public members to the beginning of the declaration

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Documentation

- Make liberal use of comments
- Write down your intent
 - Answer: Why did you code that section the way you did?
- Provide design information

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Language Conventions

- Language conventions enhance readability
- These include:
 - Use of **const**
 - protection qualifiers (**private**, **protected**, and **public**)
 - type definitions, and
 - exception declarations

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Coding Style

- Should emphasize simplicity rather than efficiency or craftiness
- A simple program is easier to modify and evolve over time
- Usually only a small fraction is performance-critical
 - do any optimizations after the program is written and working

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