

ELEN4010 - Software Development Project

Coding Conventions

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1 Introduction

Coding conventions are the methods and standards by which certain programs are coded. This document lists the coding conventions implemented for the development of a meeting scheduling system for the ELEN4010 Software Development project.

2 Python

Version: Python 3.5.1

2.1 Readability

- Tabs are used for indentation
- Python3 disallows the mixed usage of tabs and spaces
- Continuation lines align wrapped elements vertically
- The maximum line length is 79 characters, and the window width is 80 in order to avoid wrapping
- The line length of doc strings and comments are limited to 72 characters
- Long lines are wrapped by placing expressions in brackets
- Top-level function and class definitions are surrounded with two blank lines
- Method definitions inside a class are surrounded by a single blank line
- White space is only inserted after punctuation, and not before
- Lines should not end with semicolons

2.2 Maintainability

- Class definitions are written using camelCase
- All other names are written using snake_case
- Constants are defined in all capital letters
- There are no global variables
- *self* is used for the first argument to instance methods
- Files are closed explicitly on program exit

- Imported scripts should not execute the core functionality of the code
- All code in the core implements the UTF-8 character encoding, without an encoding declaration
- All imports must be done on individual lines and at the beginning of the script

2.3 Documentation

- Short comments on one line succinctly describe functionality
- Block comments are indented to the same level as the code that follows them
- Space must be inserted before the comment specifier
- Any comment that exists is kept up to date with changing code

3 HTML

3.1 Readability

- Indentations are tabbed
- New lines are used for every block
- Line lengths are limited to 80 characters

3.2 Maintainability

- No style sheets are used to prevent complexity
- All code in the core implements the UTF-8 character encoding, without an encoding declaration
- Clear and precise names for IDs and classes are used
- Names provided are lower case due to XML being case sensitive
- All non empty elements have a closing tag
- Consistent cases are used

3.3 Documentation

- Few comments are utilized to describe the HTML code
- The primary description relies on well defined variables, IDs and tags
- Short comments that exist are written on one line
- A space must be inserted before the comment specifier
- Any comment that exists is kept up to date with changing code

4 Javascript

4.1 Readability

- Javascript code is embedded in the HTML because the code is specific to a session
- Every statement begins in line vertically with the current indentation
- A space follows punctuation
- The maximum line length is 79 characters, and the window width is 80 in order to avoid wrapping
- Indentations are done using tabs

4.2 Maintainability

- All variables and functions should be declared before use
- Naming is done using camel case

4.3 Documentation

- Short comments that exist are written on one line
- A space must be inserted before the comment specifier
- Any comment that exists is kept up to date with changing code
- Inline comments are preferred to block commenting

5 SQL

5.1 Readability

- Tabs are avoided
- The maximum line length is 79 characters, and the window width is 80 in order to avoid wrapping
- Indents are 4 spaces for column names and table wide constraint definitions
- Only one statement is utilized on each line
- White space is implemented after punctuation
- Column definitions must be separated by 1 blank line

5.2 Maintainability

- All SQL keywords are in upper case
- snake_case is used for all function and variable names, and camelCase is not utilised

5.3 Documentation

- All comments use the SQL standard double-dash method (- -)
- Does not make use of c-style commenting to enable cross platform support
- Column comments are used optionally only when they are useful

6 Conclusion

In conclusion, these coding conventions have the ultimate goal of improving the readability, maintainability and general understanding of the source code. It provides a standard for other programmers to grasp the algorithms used in order to improve the current code.