Unit 11: Pointers, References & Memory, and Design Patterns

The reading this week focusses on the design patterns which may be used to support code development, and particularly the development of an object oriented approach. We also consider the creation of sustainable code in the literature reviewed.

Required Reading

Reitz, K. (2016) The Hitchhiker's Guide to Python: Best Practices for Development. O'Reilly.

- Chapter 7.

Nilsson, E. G. (2009) Design patterns for user interface for mobile applications. Advances in Engineering Software. 40(12). ISSN 0965-9978. DOI: 10.1016/j.advengsoft.2009.01.017.

Zhu, H. S., Lin, C. & Liu, Y. D. (2015) A Programming Model for Sustainable Software. IEEE/ACM 37th IEEE International Conference on Software Engineering. 767-777. DOI: 10.1109/ICSE.2015.89.

Philip, G. (2021) Ten Million Users and Ten Years Later: Python Tutor's Design Guidelines for Building Scalable and Sustainable Research Software in Academia. In The 34th Annual ACM Symposium on User Interface Software and Technology (UIST '21). Association for Computing Machinery. New York, NY, USA. 1235–1251.

Jones, L. (no date) Pointers in Python: What's the Point? Real Python.

Podder, S., Burden, A., Singh, S. K. & Maruca, R. (2020) How Green is Your Software? Harvard Business Review.

Additional Reading

Hasheminejad, S. M. H. & Jalili, S. (2012) Design patterns selection: An automatic two-phase method. *Journal of Systems and Software* 85(2):408-424. ISSN 0164-1212. DOI: 10.1016/j.jss.2011.08.031.

isocpp.org (2022) Memory Management.

Programiz (no date) C++ Pointers.