What you should have done for this week

From the text book read Chapter 3 on Analysis of Algorithms.

- The performance of an algorithm might depend on hardware details. How do we deal with this for purposes of analysis?
- The performance of an algorithm might depend on the input data. How do we deal with this for purposes of analysis?
- Which is faster, $O(n^2)$ or $O(n \log n)$?
- What is the order of growth for removing an element from a list?
- Please prepare answers to Exercise 3.1
- What is the order of growth of LinearMap.add?
- What is the order of growth of BetterMap.get?
- Why does the size of the HashMap have to grow geometrically?
- What conclusion can we draw from Figure 3.1?
- Why are list comprehensions called ”comprehensions”? Can you find the origin of the term?
What we will do today

Work through Chapter 3 on Analysis of Algorithms.

Student reading presentations.
Chapter 3 on Analysis of Algorithms

From the text book, “Think Complexity”, by Allen B. Downey. (I use version 1.2.2) (Revision) on techniques for analysing algorithms which may be calculating properties of or simulating a complex system.

- Order of growth.
- Analysis of basic Python operations
- Analysis of search algorithms
- Hashtables
- Summing lists
- pyplot
- List comprehensions
For Week 5: Read Chapter 4 on Small World Graphs

- Attempt the exercises in chapter 4.
And that’s all for the week’s class.

Enjoy the rest of the week.