Chapter 1 & 2 outline:

- Introduction, sets and elements (Wednesday, Aug 24)
- Set operations; visual verification of set propositions (Friday, Aug 26)
- Introduction to SML; cardinality and Cartesian products (last week Monday)
- Making types in SML (last week Wednesday)
- Functions in SML (last week Friday)
- Lists and functions on lists (Today)
- Powersets; a language processor (next week Friday)

Today:

- Review of functions
- Principles of lists
- Type analysis of lists
- Functions on lists
1. Lists must have at least one item.

2. All elements in a list must have the same type.

3. Lists can have tuples in them

4. Tuples can have lists in them.

5. This is a good way to think of lists:

6. This is a good way to think of lists:
\[\text{tl}([5, 12, 6])@[8, 9]\]
hd([12, 5, 6]):[2, 7]
[[(2.3, 5), (8.1, 6)], []]
([1, 12, 81], ["a", "bc"])

For next time:

*If you had trouble on the programming problems from last time, ask for help and try again.*

Pg 70: 2.1.(2-4, 9, 10) [on “paper”, electronically through Schoology]
Pg 74: 2.2.(2, 3, 8, 9) [through turn-in page]

See notes on Ex 2.2.8 and 2.2.9 on the Schoology description of the assignment for clarifications and hints. See also the code from class for “starter code.”

You do **not** need to include your SML code with your on-paper problems that you turn in.

Read 2.(4 & 5)