Chapter 1 & 2 outline:

- Introduction, sets and elements (last week Monday)
- Set operations; visual verification of set propositions (last week Wednesday)
- Introduction to SML; cardinality and Cartesian products (last week Friday)
- Making types and functions in SML (this past Wednesday)
- More about functions in SML; introduction to lists [Chapter 2] (**today**)
- Functions on lists; powersets (next week Monday)
- Application: A language processor (next week Wednesday)

Today:

- Unfinished business from last time
- Recursive functions
- Lists: Definition, operations, types
- (Time permitting) Functions on lists

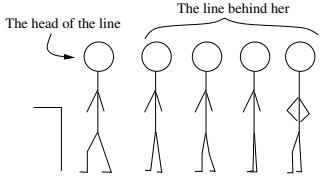
1. Lists must have at least one item.

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

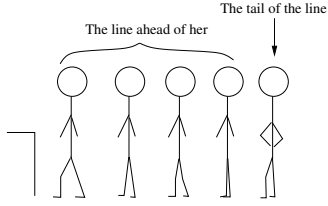
3. Lists can have tuples in them

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:



```
[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:

Pg 48: 1.11.(4, 8, 10)
Pg 50-51: 1.12.(3, 5, 8)
Pg 70: 2.1.(2-4, 9, 10)

See assignment notes on Schoology Starting with this assignment, HW problems that ask you to write an ML function should be submitted using the "Programming assignment turn-in page." You do **not** *need to include your ML code with your on-paper problems that you turn in.*

Reread 2.2 (as necessary)
Skim 2.3
Read 2.4