

# CSE 341: Programming Languages

Dan Grossman

Fall 2004

Lecture 2— ML functions, pairs, and lists

# What is a programming language?

---

Here are separable concepts for defining and evaluating a language:

- syntax: how do you write the various parts of the language?
- semantics: what do programs mean? (One way to answer: what are the evaluation rules?)
- idioms: how do you typically use the language to express computations?
- libraries: does the language provide “standard” facilities such as file-access, hashtables, etc.? How?
- tools: what is available for manipulating programs in the language?

## Our focus

---

This course: focus on semantics and idioms to make you a better programmer

Reality: Good programmers know semantics, idioms, libraries, and tools

Libraries are crucial, but you can learn them on your own.