

CSE 341: Programming Languages

Dan Grossman

Winter 2008

Lecture 6— Nested pattern-matching; course motivation

Patterns

What we know:

- case-expressions do pattern-matching to choose branch
- val-bindings and fun-arguments also do pattern-matching
 - All functions take one argument
- Can match datatypes (including lists, options) and records (including tuples)

The full story is *more general*

Deep patterns

Patterns are much richer than we have let on. A pattern can be:

- A variable (matches everything, introduces a binding)
- `_` (matches everything, no binding)
- A constructor and a pattern (e.g., `C p`) (matches a value if the value “is a `C`” and `p` matches the value it carries)
- A pair of patterns (`(p1, p2)`) (matches a pair if `p1` matches the first component and `p2` matches the second component)
- A record pattern...
- ...