

# Type Systems

# Haskell & ML: Interesting Features

- Type inferencing
- Freedom from side effects
- Pattern matching
- Polymorphism
- Support for higher order functions
- Lazy patterns / lazy evaluation
- Support for object-oriented programming

# Type Inferencing

- Def: ability of the language to infer types without having programmer provide type signatures.

– SML e.g.:

```
fun min (a: real, b)
  = if a > b
    then b
    else a
```

- type of **a** has to be given, but then that's sufficient to figure out
  - type of **b**
  - type of **min**
- What if type of **a** is not specified?
  - could be ints
  - could be

bools...