

New topic: Type inference

What type inference accomplishes

```
-> (define double (x) (+ x x))
double ;; uScheme

-> (define int double ([x : int]) (+ x x))
double : (int -> int) ;; Typed uSch.

-> (define double (x) (+ x x))
double : (int -> int) ;; nML
```

What else type inference accomplishes

```
-> ([@ cons bool] #t ([@ cons bool] #f [@ ' () bool]))  
(#t #f) : (list bool)      ;; typed uScheme  
  
-> (   cons           #t (   cons           #f   ' ()           ))  
(#t #f) : (list bool)      ;; nML
```

How it works

1. For each unknown type, a **fresh type variable**
2. Every typing rule adds **equality constraints**
3. Instantiate every variable automatically
4. Introduce polymorphism at `let/val` bindings

Examples

At the board...