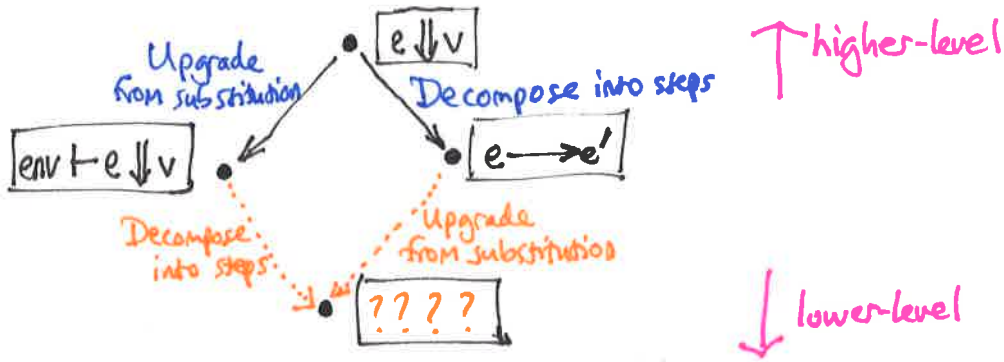


More dynamic semantics

(The best thing about semantics is that there are so many of them.)

①

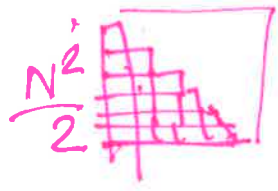


Upgrade from substitution

Substitution:
- inefficient

(Let x_1 e_1
 (Let x_2 e_2
 ...
 (Let x_N e_N
 (Pair x_1 (Pair x_2
 (Pair x_3
 ...
 x_N) ...)))
 ...))

$O(N)$
 $O(N-1)$



should be $O(N)$
 ~~$O(N^2)$~~ using substitution

- obscure

Substitution replaces all the useful names we give functions (for example) with their definitions

(Let double (Lam x (Add (Id x) (Id x)))
 ...
 (App ~~double~~ (Num 5))
 (Lam x ...))

+ ~~simple~~ simple

Long... but relatively straightforward

+ versatile

Relatively easy to extend substitution to lots of different language features.