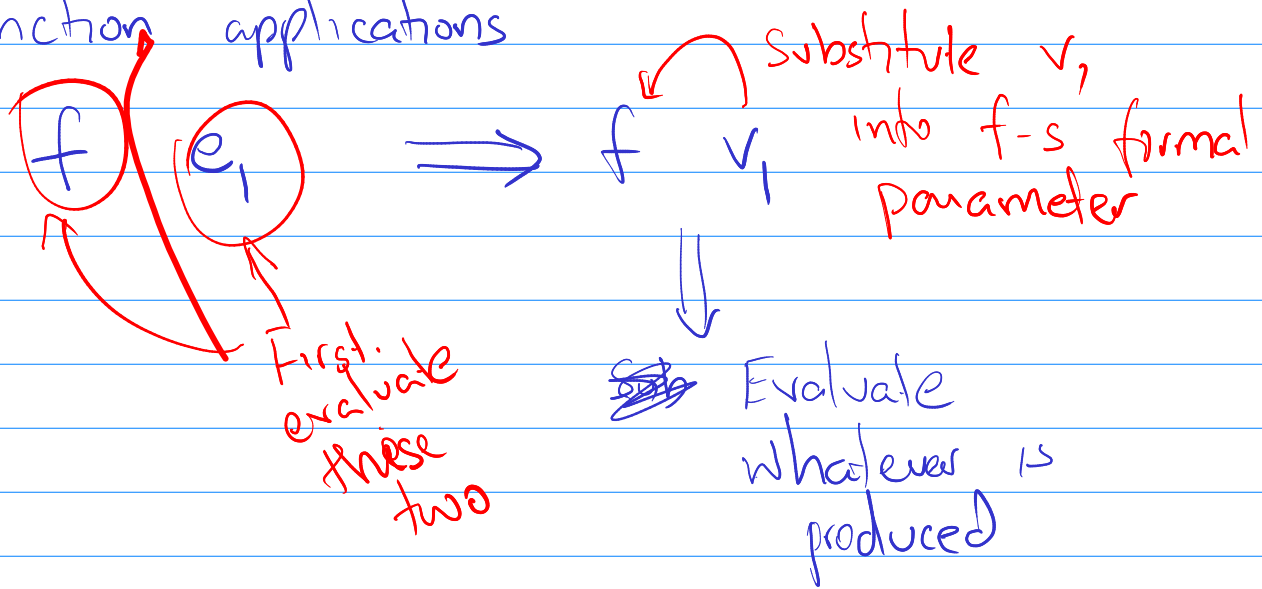


Evaluation Rules

- How does Ocaml evaluate expressions?

- Function applications



let f $x = x + 1$

$f(3+8) \Rightarrow f \ 11 \Rightarrow 11+1 \Rightarrow 12$

Static scoping / Lexical scoping

Yusuf's correction: Stop if another let expression seen binding X.

- let expressions

let $x = 5 + 6$ in $x + 1$

① First evaluate

thus ①①

② Whenever I see X, substitute ①①.

③ Evaluate this $11 + 1 \Rightarrow 12$.

Don't recurse if shadowing happens

let $x = 5 + 6$ ①
 in $x +$ [~~let $x = 9 + 8$~~
 in $(x - 1)$] ②

$11 + 16 = 27$.

let $x = 5 + 6$
 in ~~$x +$~~ (let $x = 9 + 8$ in $(x - 1)$) + x

let $x = 5 + 6$ in

~~let~~ let $x = 9 + 8$ in

$((x-1) + x)$

let $x = 5 + 6$ in

$x +$ let $x = x + 1$ in
 $(x + 1)$

if e_1 then e_2 else e_3

First,
evaluate
this.

If $e_1 \Rightarrow$ true
evaluate this

Otherwise,
evaluate this.