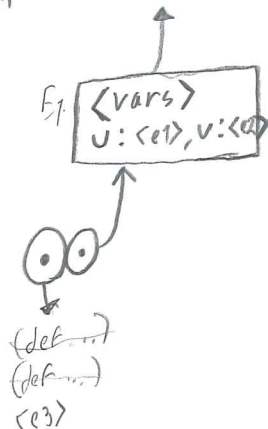
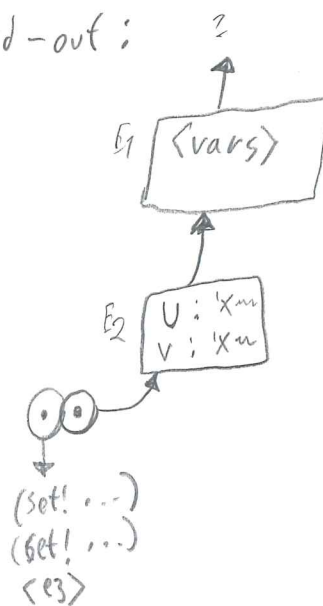


4.17 Draw diagrams for evaluating $\langle e3 \rangle$ when done sequentially, and when scanned out as in 4.16.

Sequential:



Scanned-out:



Extra frame since procedures have their own frames, and $\text{let} \rightarrow \lambda$, so really two nested lambdas, whereas defines (and sets) just update the bounding frame.

It can't make a difference in behaviour of a correct program because of variable look-up rules which gradually "search up". (Also "confinement" of the new children.)

Simultaneous without extra frame:

$(\lambda \langle \text{vars} \rangle$

(define u $\langle e1 \rangle$)

(define v $\langle e2 \rangle$)

$\langle e3 \rangle$)

\rightarrow

$(\lambda \langle \text{vars} \rangle$

(set! v '* v unassigned *)

(set! v '* v unassigned *)

(set! v $\langle e1 \rangle$)

(set! v $\langle e2 \rangle$)

$\langle e3 \rangle$)

(Or just have defines at the start of the function body?)