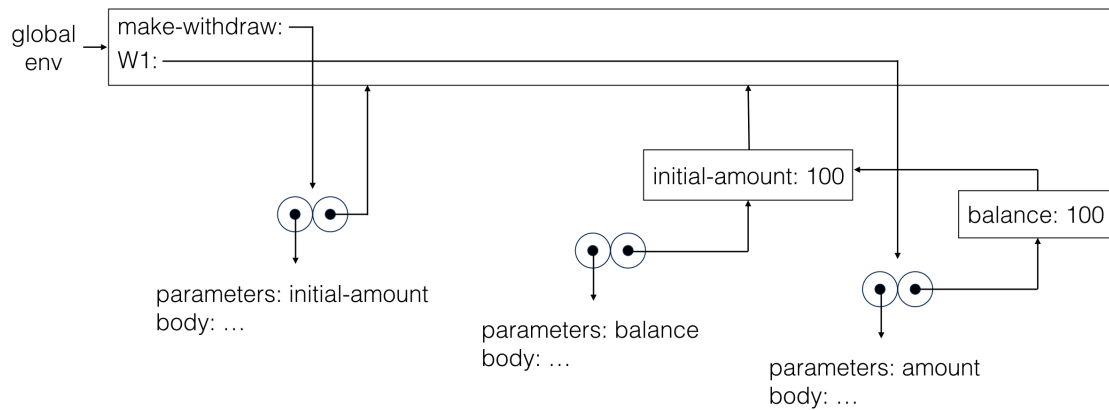


SICP Exercise 3.10

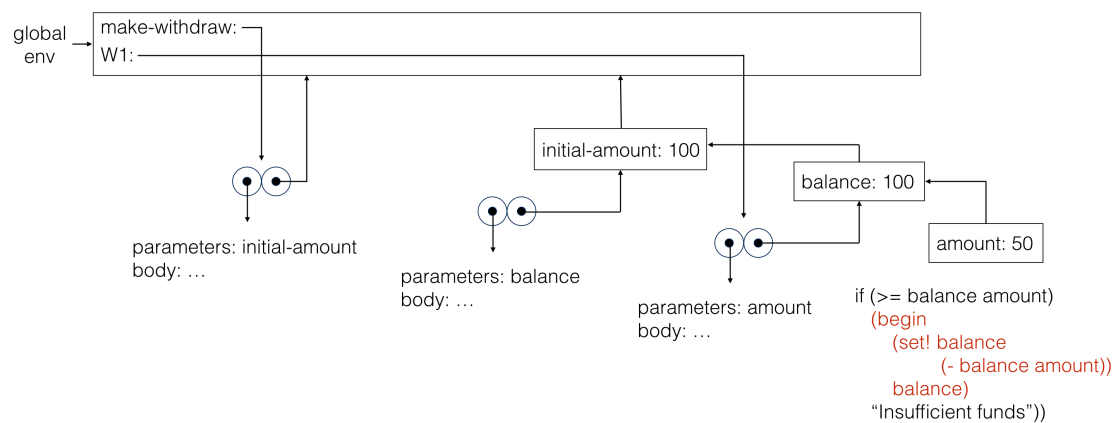
Yuchong Pan

September 8, 2016

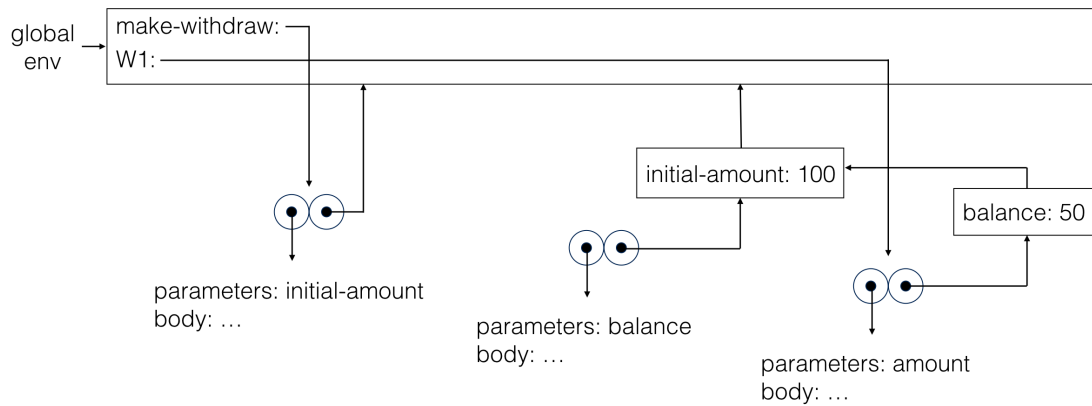
The environments created by evaluating `(define W1 (make-withdraw 100))` are given as follows:



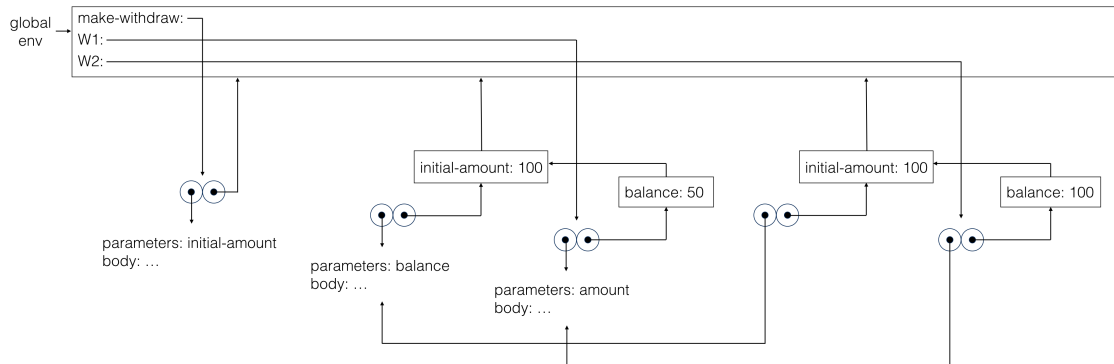
The environments created by applying the procedure object `W1` to `50` are given as follows:



After the call to W1, the environments become



Using `(define W2 (make-withdraw 100))` to create a second object gives



The two versions of `make-withdraw` create objects with the same behavior, since the environments created by the two versions of `make-withdraw` each contain a frame with its own local binding for `balance`, and since the state variables `make-withdraw` which calls to `W1` and to `W2` reference are stored in different environments.

By contrast, the environment structures created by the alternate version have an extra "anonymous" procedure object and an extra frame with the binding for `initial-amount` for each object created by `make-withdraw`. Hence, more space is required for the latter version.