

Problem 1A.

```
(value-of
  <<let a = 10 in
    let f = proc (func) (func a) in
      let a = 5 in
        let g = proc (x) -(x, a) in (f g)>>
  p)

Let p1 = [a=[10]]p

= (value-of
  <<let f = proc (func) (func a) in
    let a = 5 in
      let g = proc (x) -(x, a) in (f g)>>
  p1)

Let p2 = [f=(proc-val (procedure func <<(func a)>> p1))]p1

= (value-of <<let a = 5 in let g = proc (x) -(x, a) in (f g)>> p2)

Let p3 = [a=[5]]p2

= (value-of <<let g = proc (x) -(x, a) in (f g)>> p3)

Let p4 = [g=(proc-val (procedure x <<-(x, a)>> p3))]p3

= (value-of <<(f g)>> p4)

= (apply-procedure
  (procedure func <<(func a)>> p1)
  (procedure x <<-(x, a)>> p3))

= (value-of
  <<(func a)>>
  [func=(proc-val (procedure x <<-(x, a)>> p3))]p1)

= (apply-procedure (procedure x <<-(x, a)>> p3) [5])

= (value-of <<-(x, a)>> [x=[5]]p3)

= (- 5 5)

= 0
```

Problem 2A

Check for comments in “tests.rkt” for explanations.

Problem 2B

Procedure arguments are now a list (including the empty list).

Modified proc-exp and call-exp grammar in “lang.rkt”

Modified proc-exp and call-exp evaluation in “interp.rkt”

Modified apply-procedure in “interp.rkt”

Modified procedure datatype in “data-structures.rkt”