

CSCI-GA-2110 – Problem Set 2 – Written Part - Solutions

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Task 1.1

let with multiple bindings

```
(let ([x e1] [y e2] [z e3]) e)
```

can be written as:-

```
((lambda (x)
  (lambda (y)
    (lambda (z)
      e))) e1) e2) e3)
```

let* with multiple bindings

```
(let* ([x e1] [y e2] [z e3]) e)
```

can be written as:-

```
((lambda (x)
  ((lambda (y)
    ((lambda (z) e)
      e3))
    e2))
  e1)
```

Task 2.1

```
(lambda (x y z)
  (z (lambda (x y) (z x)) y))
```

rewritten in lexical address form:-

```
(lambda 3
  ((: 0 2) (lambda 2 ((: 1 2) (: 0 0))) (: 0 1)))
```

Task 2.2

```
(lambda 1
  (lambda 1
    (: 1 0)))
```

rewritten in standard racket form:-

```
(lambda a1
  (lambda b1
    a1))
```