

Lambda Calculus and Continuations

1. Evaluate the following Lambda Calculus expression:

$$(\lambda x. y) ((\lambda y. y y y) (\lambda x. x x x))$$

2. Evaluate the following Lambda Calculus expression:

$$(\lambda x. \lambda y. x y y) (\lambda y. y) y$$

3. What is the output of the following Scheme code and why?

<pre>(define (y c) (c x)) (define x 3) (define z (+ 1 (call/cc y))) z</pre>	
<pre>(define c (call/cc (lambda (cc) cc))) (define d c) (d 3) c (d 4) c (d 'a) c</pre>	
<pre>(define (foo cc) cc) (define bar (cons '(1 2) (call/cc foo))) (define baz (cdr bar)) (baz 3) bar (baz '(3 4)) bar</pre>	