

# Quiz 4

CSCI 334: Spring 2024

Your name: \_\_\_\_\_ instructor solution \_\_\_\_\_

Reduce the expression  $(\lambda a . \lambda b . a) x a$

$(\lambda a . \lambda b . a) x a$

$(\lambda c . \lambda b . c) x a$

$(\lambda b . x) a$

$(x)$

$x$

**given**

**$\alpha$ -reduce**  $a$  to  $c$  because free variable has same name as bound variable

**$\beta$ -reduce**  $x$  for  $c$

**$\beta$ -reduce**  $a$  for  $b$

**eliminate** parens

**done**