Higher Order Procedure Notes

1. Using higher order procedures: *procedures that return procedures*

   \[
   (*) 2 5 \\ (*) 2 8 \]

   \[
   (*) 3 2 \\ (*) 3 4 \]

   (define (double n) \[n + n\])  
   (define (triple n) \[n + n + n\])

   (define (make-mult x) \[x \times x\])

2. Using higher order procedures: *procedures that take procedures as arguments*

   very useful hops: map, filter, (fold-right, fold-left next recitation)

   examples:

   (define (map op items) \[](items \times op\])
   (define (filter op items) \[](items \times op\])

   (map double (list 1 2 3 4)) => (2 4 6 8)
   (filter even? (list 1 2 3 4)) => (2 4)