Tutorial 2

• Quick review of C syntax
• Implementing a few functions
• Recursion in C
My first C programs

All we have so far is:

• `int` types
• `simple functions`
• `main` with only `trace_int`

Let’s try using them in Seashell!
Define, Document and Test Ceil Function

Define the following C function:

```
// ceiling(a, b) calculates the value of a / b
// rounded up to the nearest integer
// requires: a >= 0, b > 0
```
Minimum of 4 Numbers

Define the following C function:

    // min4(a, b, c, d) finds the minimum of a, b, c, and d
Translating Racket to C

Translate the following Racket function to C:

;;; (sumpow n pow) sums up i^pow with i from 0 to n
;;; sumpow: Nat Nat -> Nat

(define (sumpow n pow)
  (cond [(zero? n) (expt 0 pow)]
        [else (+ (expt n pow)
                  (sumpow (sub1 n) pow))])))