My first C programs

All we have so far is:

- \texttt{int} types
- simple functions
- \texttt{main} with only \texttt{trace_int}

Let's try using them in Seashell!

Define, Document and Test Ceil Function

Define the following C function:

\begin{verbatim}
// ceiling(a, b) calculates the value of a / b
// rounded up to the nearest integer
// requires: a \geq 0, b > 0
\end{verbatim}
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 \(i^\text{pow}\) 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))])))