Slide 1

Administrivia

- Reminder: Quiz 3 Wednesday. Likely topic is simple loops.

Slide 2

Minute Essay From Last Lecture

- Many people came fairly close. More used a `for` loop than a `while` loop, and to me the former seems more natural. But either can work!
- Notice that this function doesn't have to prompt the human user for anything or get input. It also doesn't return anything.
- Notice also that while you *can* declare a variable for the square to print, you don't have to — you could just calculate it right in the call to `printf`.

Slide 3

Numerical Integration — Review

- General idea is to estimate the value of a definite integral (area under a curve) by dividing the total area up into small slices and approximating area of each by area of a rectangle with height equal to the function value at midpoint.
- As an example, can approximate π by approximating

$$\int_0^1 \frac{4}{1+x^2}\,dx$$

(If you don't remember, or never learned, what this means, no worries. For purposes of this class all that matters is how we do the approximation.)

- (Aside: This turns out to be a good introductory example of "parallel programming" because it lends itself to solutions involving multiple processing elements.)
- How does this look in C. . .

Slide 4

Another Loop Example — Loop Until "Convergence"

- It's not atypical to want to repeat something until some computation "converges".
- As an example, we could revise the example we just wrote to do the computation repeatedly until some condition is reached.

Slide 5

Minute Essay

- Any questions about loops?