QUIZ!
Use a full sheet of 8½x11" paper. (Half sheet? Half credit!)

Put **only your last name** in the **far upper left hand corner** of the sheet, where a staple would hit it. It's OK to write **BIG**, just start in the corner!

**Mitchell**  AVOID A ½-POINT DEDUCTION!

Keep answers short! Avoid full sentences. Feel free to abbreviate.

6 questions; 3 minutes; 3 points.

Numbering responses may help you avoid overlooking a question. You may go ahead and number your paper.
1. Write a Java expression that has a side effect.

2. Write a Haskell function that computes the area of a rectangle given its width and height. Append ::Int to force it to operate on Ints.

3. What's the type of the function you wrote in the previous problem?

4. What does REPL stand for? Or, what's the essential functionality provided by a REPL?

5. What's a characteristic of the functional programming paradigm?

6. Imagine that :type f shows this: Foo a => a -> Char
   What does that type mean?
Solutions

1. Write a Java expression that has a side effect.  x++

2. Write a Haskell function that computes the area of a rectangle given its width and height. Append ::Int to force it to operate on Ints.  
   \[
   \text{area } w \ h = w \times h :: \text{Int}
   \]

3. What's the type of the function you wrote in the previous problem?
   
   \[
   \text{Int} \to \text{Int} \to \text{Int}
   \]

4. What does REPL stand for? Or, what's the essential functionality provided by a REPL?  Read-Eval-Print Loop

5. What's a characteristic of the functional programming paradigm?

   See slides 24-25. My quick answer: "functions are values"

6. Imagine that type f shows this: Foo a \to a \to Char

   What does that type mean?

   f is a function that requires a value whose type is a member of the type class Foo. f produces a Char.