

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.

3 questions; 3 minutes; 3 points. Plus a ½ point E.C. question.

Question 3 is worth two points.

Numbering responses may help you avoid overlooking a question. You may go ahead and number your paper.

Quiz 4, February 9, 2016
3 minutes; $\frac{1}{2} + \frac{1}{2} + 2$ points

1. Give a simple definition for "higher order function".
2. What's the type of **map**? Here's a reminder of how **map** works:

```
> map (add 2) [1..5]
[3,4,5,6,7]
```
3. Write a function **atb f x y** that calls the function **f** with the larger of **x** and **y**. (2 points!)

```
> atb negate 7 2
-7
```

```
> atb length "aa" "zzz"
3
```

EC $\frac{1}{2}$ point: In Haskell, what's a "section"? (Ok to just show an example.)

Solutions

1. Give a simple definition for "higher order function".

A function that has one or more arguments that are functions.

2. What's the type of `map`?

`(a -> b) -> [a] -> [b]`

3. Write a function `atb f x y` that calls the function `f` with the larger of `x` and `y`. (2 points!)

Two solutions:

`atb f x y = f (if x > y then x else y)`

`atb f x y`
| `x > y = f x`
| `otherwise = f y`

EC 1/2 point: In Haskell, what's a "section"? (Ok to just show an example.)

Short answer: `(+3)` is a section.

Long answer: A syntactic mechanism that allows creation of a partial application of a binary operator by supplying either operand.