

In-Class Worksheet

Discrete Math & Functional Programming— CSCI 054— Spring 2025

Instructor: Osborn

What is the type of the function `foo`? What does the function do?

```
foo y zs = map (\x -> x^y) zs
```

Write a function `sumList` that returns the sum of a list of numbers. Write a function `prodList` that returns the product of a list of numbers.

```
foldr f x [y1, y2, ... yk] = f y1 (f y2 (... (f yk x) ... ))
foldl f x [y1, y2, ... yk] = f (... (f (f x y1) y2) ...) yk
```

What do the following evaluate to? Why?

```
foldr (^) 1 [2,3]
```

```
foldl (^) 1 [2,3]
```

What does the following evaluate to?

```
foldr (\_ s -> 1 + s) 0 ''abcde''
```