

In-Class Worksheet

Discrete Math & Functional Programming— CSCI 054— Spring 2025

Instructor: Osborn

```
ghci> isEven x = (x `mod` 2 == 0)
```

```
ghci> map isEven [1..10]
```

```
ghci> filter isEven [1..10]
```

```
ghci> map head ["abc", "def", "AAA"]
```

```
ghci> let l x = (length x > 3) in filter l ["apple", "pen", "banana", "x"]
```

What is the type of the `map` function?

What is the type of the `filter` function?

Write a function `multFirst :: [Integer] -> [Integer]` which returns a list containing the products of the first and n'th elements of the input. For example: `multFirst [2,3,4,5] = [6,8,10]`

Does your function use a higher-order function? If not, how could you write it using a higher order function?