Comp0002 Haskell
Lab exercise sheet 3

Higher Order Functions

Write some functions **using the higher order functions, `map`, `filter`, and `foldr`** and supplying appropriate types. Call the file `LabSheet3.hs`

1. A function `mult` which creates the product of a list of numbers
2. A function `posList` to return only the positive integers in a list
3. A function `trueList` that determines whether all the Booleans in a list of Booleans are true.
4. A function `evenList` that determines whether all the numbers in a list of numbers are even.
5. A polymorphic function `maxList` that returns the maximum of a list of items that can be ordered (i.e. in the Ord typeclass).
6. A function `inRange :: Int -> Int -> [Int] -> [Int]` to return all numbers in the input list within the range given by the first two arguments (inclusive)
7. A function `countPositives` to count the positive numbers in a list (the ones strictly greater than 0)
8. Define your own version of the library function `length`, calling it `myLength`, using `folder` and `map`.
9. define `map` using `foldr` and call it `myMap`
10. Define `length` using `foldr` only and call it `myLength'`.