HASKELL PROGRAMMING PROBLEM SET 3

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Read Chapter 6 of *Learn You a Haskell*, and make sure you understand it really well. Being able to work fluently with curried functions and higher-order functions and understanding their types is really important when programming in Haskell, since they are so fundamental to the common idioms you'll use in every Haskell program.

This means it's time for another round of. . . Name That Type!

Problem 1. Name That Type! round 2

Give the types of all the following expressions.

(1) `(3 +) ::` _____

(2) `func1 = elem 'a'`
    `func1 ::` _____

(3) `func2 = zip [1..]`
    `func2 ::` _____

(4) `('div' 10) ::` _____

(5) `map ::` _____

(6) `filter even ::` _____

(7) `show . (+ 1) ::` _____

(8) `func3 f xs = map (f . f) xs`
    `func3 ::` _____

(9) `func4 f = foldr f 0 "Hello, world!"`
    `func4 ::` _____

(10) `zipWith ($) ::` _____

(11) `func5 xs = map (λ p -> takeWhile p xs)`
     `func5 ::` _____

(12) `func6 = foldl (λ a -> (++ (show a)))`
     `func6 ::` _____

(13) `(.) . (.) ::` _____

(14) `(λ f g -> map (. g) . map ($ f)) ::` _____