Activity 4

Which higher-order function (every, keep, or accumulate) would you use to perform the following tasks? Test each of them out.

1. Create a sentence which contains the count of the letters for each word.

   numberLetters:: Language -> Language
   numberLetters w = intToWord (count w)

   countLetters :: Language -> Language
   countLetters s = > _____ numberLetters s

   > countLetters (sent "this is a test")
   [4 2 1 4]

2. Remove all but the letter 'a' in a given word

   isAnA :: Language -> Bool
   isAnA letter = letter == (word "a")

   removeAllButA :: Language -> Language
   removeAllButA w = _____ isAnA w

   > removeAllButA (word "banana")
   aaa

3. Remove all but the letter 'a' in each word of a sentence

   removeAllButASent :: Language -> Language
   removeAllButASent s = _____ removeAllButA s

   > removeAllButASent (sent "eat a large banana")
   [a a a aaa]

4. Take a sentence which we know contains only numbers and returns the sum of those numbers.

   addNum :: Language -> Language -> Language
   addNum x y = intToWord (wordToInt x + wordToInt y)

   sumNums :: Language -> Language
   sumNums s = _____ addNum s

   > sumNums (sent "4 2 1 4")
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5. Combine the answers above to count the number of a's in a sentence.

   countASent :: Language -> Language
   countASent s = (_____ (_____ (_____ s)))

   > countASent (sent "eat a large banana"))))
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