## Quiz 2 (Haskell)

**Due** Jan 29 at 11:59pm

Points 100

**Questions** 12

Available Jan 24 at 12am - Jan 29 at 11:59pm

Time Limit 90 Minutes

**Allowed Attempts** 2

## **Attempt History**

	Attempt	Time	Score	
KEPT	Attempt 2	53 minutes	90 out of 100	
LATEST	Attempt 2	53 minutes	90 out of 100	
	Attempt 1	25 minutes	76.67 out of 100	

Score for this attempt: 90 out of 100

Submitted Jan 28 at 11am

This attempt took 53 minutes.

	Question 1	5 / 5 pts	
	True or false? A Haskell list may contain elements of different types.		
	O True		
Correct!	False		

True or false? Values (except functions) can be part of a pattern.

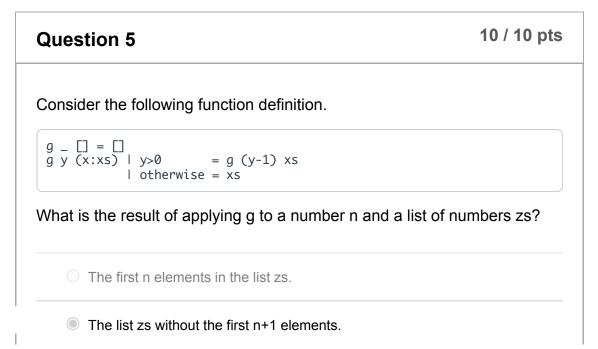
Correct!

True

Fal	Se

# Question 3 5 / 5 pts True or false? Types can be part of a pattern. True False

## True or false? Each Haskell list ends with the empty list constructor []. Correct! False



The list zs without the first n elements.
A list of the elements in the list zs.that are greater than 0

Question 6 10 / 10 pts

Consider the following function definition.

What is the result of applying h to a number n and a list of numbers zs?

- The value n!
- The sum of the elements in the list zs
- The number of elements in the list zs
- Correct! 

  The number n times the length of the list zs

Question 7 10 / 10 pts

Complete the following Haskell function definition range that produces a consecutive list of numbers that starts with a number given as argument and ends in 1. For example, range 3 results in [3,2,1]. Give a recursive definition. (You can ignore negative arguments.)

```
range :: Int -> [ Int ]
range 0 = []
range n = _____
```

- (n-1):range(n)
- range (n:n-1)

n:range (n-1)		
<ul><li>None of the abov</li></ul>		
(n-1):range(n-1)		

Question 8 10 / 10 pts

Complete the following Haskell function definition downFrom that produces a consecutive list of numbers that starts with a number given as argument and ends in 1. For example, downFrom 3 results in [3,2,1]. Give a recursive definition. (You can ignore negative arguments.)

- downFrom(n-1):n
- (n-1):downFrom(n)
- (n-1):downFrom (n-1)

Correct!

n:downFrom (n-1)

**Question 9** 

10 / 10 pts

Consider the following definition of the function fac

Select the evaluation trace for the expression for fac 3.

fac 3 = 3 \* fac (3-1)= 3 \* fac 2= 3 \* 2 \* fac (2-1)= 3 \* 2 \* fac 1 = 3 \* 2 \* 1 = 6 fac 3 = 1 \* 2 \* 3= 6 fac 3 = fac (2) \* 3= fac (1) \* 2 \* 3= fac (0) \* 1 \* 2 \* 3= 6 fac 3 = fac (3) \* fac(2) \* fac(1) \* fac(0)= 3 \* 2 \* 1 \* 1 = 6

## **Question 10**

10 / 10 pts

Consider the following definition of the function sum

$$\begin{array}{c}
sum [] = 0 \\
sum (x:xs) = x + sum xs
\end{array}$$

Select the evaluation trace for the expression sum [5,2].

$$sum [5,2] = sum[5] + sum [2]$$
  
= 7

Correct!

sum 
$$[5,2] = 5 + sum [2]$$
  
= 5 + 2 + sum []  
= 5 + 2 + 0  
= 7

sum [5,2] = sum[5] + 2 = sum [] + 5 + 2 = 7

Consider the following definition (which is type correct).

ys = map reverse xs

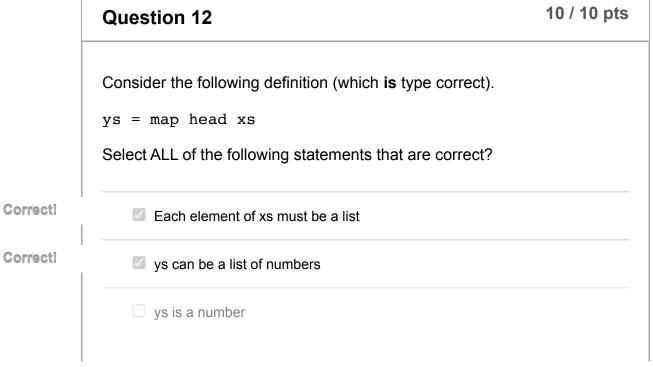
Select ALL of the following statements that are correct?

xs can be a list of numbers

The last element in xs is the first element in ys

xs must be a list of lists

ys is a list of numbers



ys has the same length as xs

Quiz Score: 90 out of 100