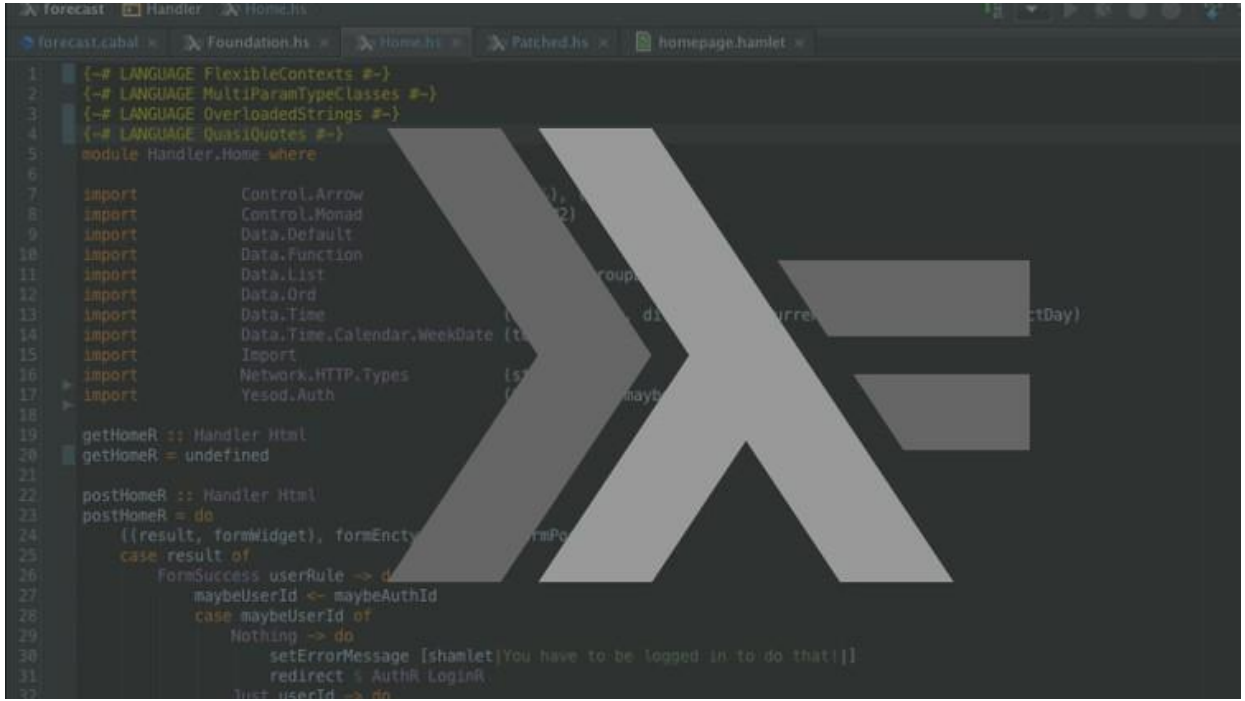
Infinite Lists Problems

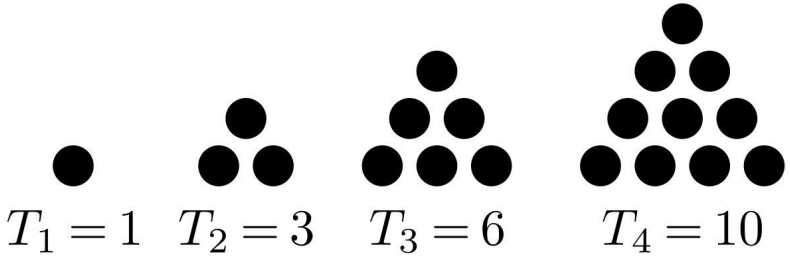


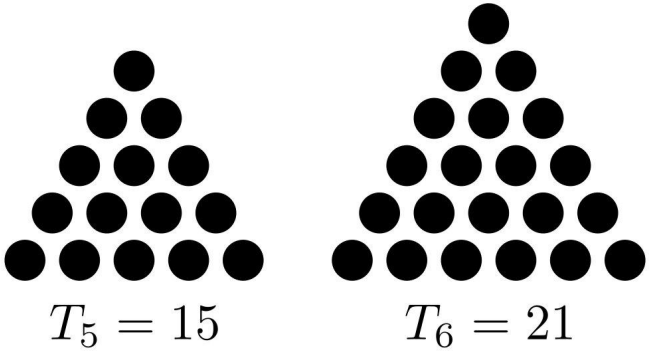
Problem 4

The goal of this problem is to work the definition of infinite lists. In particular, you are required to define the function that generates the sequence of the triangular numbers [0,1,3,6,10,15,21,28…]. Use the function *triangulars :: [Integer]*

Input	Output
`take 6 triangulars`	`-> [0,1,3,6,10,15]`
`take 4 triangulars`	`-> [0,1,3,6]`

Triangular Numbers





Triangular Numbers

$$T_n = \sum_{k=1}^{n} k = 1 + 2 + 3 + \cdots + n = \frac{n(n+1)}{2}$$

iterate

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λ> iterate (*2) 1
👉 [1, 2, 4, 8, 16, ...]
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scanl

Input: scanl (/) 64 [4,2,4]

Output: [64.0,16.0,8.0,2.0]

Instructor Youtube Channel: Lucas Science