

1. $\text{mylengthr } [1,2,3] \Rightarrow \text{myfoldr } (\backslash_n \rightarrow 1+n) 0 [1,2,3] \Rightarrow f 1 (\text{myfoldr } f 0 [2,3])$
 $\Rightarrow f 1 (f 2 (\text{myfoldr } f 0 [3])) \Rightarrow f 1 (f 2 (f 3 (0)))$ where $f = (\backslash_n \rightarrow 1+n)$
 $f 1 (f 2 (f 3 (0))) \Rightarrow f 1 (f 2 (1)) \Rightarrow f 1 (2) \Rightarrow 3$
2. **$\text{myfoldl} :: (a \rightarrow b \rightarrow a) \rightarrow a \rightarrow [b] \rightarrow a$**
 $\text{myfoldl } f \text{ acc } [] = \text{acc}$
 $\text{myfoldl } f \text{ acc } (x:xs) = \text{myfoldl } f (f \text{ acc } x) xs$
 - a. $\text{mylengthl} :: [a] \rightarrow \text{Int}$
 $\text{mylengthl} = \text{myfoldl } 0 (\backslash n \rightarrow n + 1) 0$
 - b. $\text{mylengthl } [1,2,3] \Rightarrow \text{myfoldl } (\backslash_n \rightarrow n+1) 0 [1,2,3] \Rightarrow \text{let } f = (\backslash_n \rightarrow n + 1)$
 $\Rightarrow \text{myfoldl } f (f 0 1) [2, 3] \Rightarrow \text{myfoldl } f 1 [2,3] \Rightarrow \text{myfoldl } f (f 0 2) [3]$
 $\Rightarrow \text{myfoldl } f 2 [3] \Rightarrow \text{myfoldl } f (f 0 3) [] \Rightarrow \text{myfoldl } f 3 \Rightarrow 3$
3. **$\text{myfoldl} :: (a \rightarrow b \rightarrow a) \rightarrow a \rightarrow [b] \rightarrow a$**
 $\text{myfoldl } f \text{ acc } [] = \text{acc}$
 $\text{myfoldl } f \text{ acc } (x:xs) = \text{myfoldl } f (f \text{ acc } x) xs$
 - a. $\text{myreverse} :: [a] \rightarrow [a]$
 $\text{myreverse } [] = []$
 $\text{myreverse } (x:xs) = (\text{myreverse } xs) ++ ([(\text{myfoldl } (\backslash_ _ \rightarrow 0) x [])])$
 - b. $\text{myreverse } [1,2,3] \Rightarrow \text{let } f = \text{myfoldl } (\backslash_ _ \rightarrow 0) \Rightarrow$
 $(\text{myreverse } [2,3]) ++ ([(f 1 [])]) \Rightarrow (\text{myreverse } [2,3]) ++ [1] \Rightarrow$
 $(\text{myreverse } [3]) ++ ([(f 2)]) ++ [1] \Rightarrow ((\text{myreverse } [3]) ++ [2]) ++ [1] \Rightarrow$
 $((\text{myreverse } []) ++ ([(f 3)])) ++ [2] ++ [1] \Rightarrow (([])) ++ [3] ++ [2] ++ [1] \Rightarrow$
 $[3,2,1]$