

[4, 5, 6, 7, 8, 9]

where $\langle u, v \rangle \otimes x$
is defined as
let $w = v * x$
in $\langle u + w, w \rangle$

scanl (*) 1

foldl (⊗) ⟨0+1, 1⟩

[1, 1*4, (1*4)*5, ((1*4)*5)*6, (((1*4)*5)*6)*7, ((((1*4)*5)*6)*7)*8, ((((((1*4)*5)*6)*7)*8)*9]

((((((⟨0+1, 1⟩ ⊗ 4) ⊗ 5) ⊗ 6) ⊗ 7) ⊗ 8) ⊗ 9)

=
⟨(((((((0+1)+1*4)+(1*4)*5)+((1*4)*5)*6)+(((1*4)*5)*6)*7)+((((1*4)*5)*6)*7)*8)+(((((((1*4)*5)*6)*7)*8)*9), ((((((1*4)*5)*6)*7)*8)*9)⟩

foldl (+) 0

fst

(((((((0 + 1) + 1*4) + (1*4)*5) + ((1*4)*5)*6) + (((1*4)*5)*6)*7) + ((((1*4)*5)*6)*7)*8) + ((((((1*4)*5)*6)*7)*8)*9)