

$\text{reduce}(+,0) \circ \text{map}(\ast) \circ \text{zip}(\mathbf{x}, \mathbf{y})$

4.e

$\text{reduce}(+,0) \circ \text{part-reduce}(+,0) \circ \text{map}(\ast) \circ \text{zip}(\mathbf{x}, \mathbf{y})$

4.e

$\text{reduce}(+,0) \circ \text{outerJoin}^n \circ \text{map}(\text{part-reduce}(+,0)) \circ \text{outerSplit}^n \circ \text{map}(\ast) \circ \text{zip}(\mathbf{x}, \mathbf{y})$

4.d

$\text{reduce}(+,0) \circ \text{outerJoin}^n \circ \text{map}(\text{part-reduce}(+,0)) \circ \text{outerSplit}^n \circ \text{outerJoin}^n \circ \text{map}(\text{map}(\ast)) \circ \text{outerSplit}^n \circ \text{zip}(\mathbf{x}, \mathbf{y})$

4.g

$\text{reduce}(+,0) \circ \text{outerJoin}^n \circ \text{map}(\text{part-reduce}(+,0)) \circ \text{map}(\text{map}(\ast)) \circ \text{outerSplit}^n \circ \text{zip}(\mathbf{x}, \mathbf{y})$

4.h

$\text{reduce}(+,0) \circ \text{outerJoin}^n \circ \text{map}(\text{part-reduce}(+,0) \circ \text{map}(\ast)) \circ \text{outerSplit}^n \circ \text{zip}(\mathbf{x}, \mathbf{y})$

4.e&5.b

5.a

$\text{reduce}(+,0) \circ \text{outerJoin}^n \circ \text{map}(\text{reduce-seq}(+,0) \circ \text{map-seq}(\ast)) \circ \text{outerSplit}^n \circ \text{zip}(\mathbf{x}, \mathbf{y})$

4.h

$\text{reduce}(+,0) \circ \text{outerJoin}^n \circ \text{map}(\text{reduce-seq}(\lambda \text{ acc}, \langle a, b \rangle: \text{acc} + a \ast b, 0)) \circ \text{outerSplit}^n \circ \text{zip}(\mathbf{x}, \mathbf{y})$