Assignment 3: Additional Samples

This document provides additional sample I/O for Assignment 3. *Make sure to check the shape information and the number of brackets* '[ ]'*!*

`unit ()`

```
unit (2) == [[1,0],[0,1]]
unit (3) == [[1,0,0],[0,1,0],[0,0,1]]
unit (5) == [[1,0,0,0,0],[0,1,0,0,0],[0,0,1,0,0],[0,0,0,1,0],[0,0,0,0,1]]
```

`sumOuter ()`

```
// shape [2,3] → shape [3]
sumOuter ([[1,2,3],[4,5,6]])                    == [5,7,9]

// shape [1,3,2] → shape [3,2]
sumOuter ([[[1,2],[3,4],[5,6]]])                == [[1,2],[3,4],[5,6]]

// shape [2,2,3] → shape [2,3]
sumOuter ([[[1,2,3],[4,5,6]],[[1,2,3],[4,5,6]]]) == [[2,4,6],[8,10,12]]
```

`overSel ()`

```
// shape(iv) == [3,2], shape(a) == [2,3], shape (result) == [3] ++ [] = [3]
overSel ( [[0,0], [1,1],[1,2]],  [[1,2,3],[4,5,6]]) == [1, 5, 6]

// shape(iv) == [3,1], shape(a) == [2,3], shape(result) == [3] ++ [3] = [3,3]
overSel ([[0],[0],[1]],[[1,2,3],[4,5,6]])           == [[1,2,3],[1,2,3],[4,5,6]]

// shape(iv) == [3,1], shape(a) == [2,1,3], shape(result) == [3] ++ [1,3] == [3,1,3]
overSel ([[0],[0],[1]], [[[1,2,3]],[[4,5,6]]])      == [[[1,2,3]],[[1,2,3]],[[4,5,6]]]

// shape(iv) == [2,1], shape(a) == [2,2,2], shape(result) == [2] ++ [2,2] == [2,2,2]
overSel ([[1],[0]],[[[1,2],[3,4]],[[5,6],[7,8]]])   == [[[5,6],[7,8]],[[1,2],[3,4]]]
```

`sumNth ()`

```
// shape(a) == [3,2,1], shape(result) == [2,1]
sumNth (0,[[[1],[2]],[[3],[4]],[[5],[6]]])          == [[9],[12]]

// shape(a) == [3,2,1], shape(result) == [3,1]
sumNth (1,[[[1],[2]],[[3],[4]],[[5],[6]]])          == [[3],[7], [11]]

// shape(a) == [3,2,1], shape(result) == [3,2]
sumNth (2,[[[1],[2]],[[3],[4]],[[5],[6]]])          == [[1,2],[3,4],[5,6]]
```

If you implement `transposeNthToFront()` as well, then the sample I/O for it is:

```
// shape(a) == [2,3], shape(result) == [3,2]
transposeNthToFront (1, [[1,2,3],[4,5,6]])            == [[1,4],[2,5],[3,6]]

// shape(a) == [2,2,2], shape(result) == [2,2,2]
transposeNthToFront (1, [[[1,2],[3,4]],[[5,6],[7,8]]]) == [[[1,2],[5,6]],[[3,4],[7,8]]]

// shape(a) == [2,2,2], shape(result) == [2,2,2]
transposeNthToFront (2, [[[1,2],[3,4]],[[5,6],[7,8]]]) == [[[1,3],[5,7]],[[2,4],[6,8]]]
```

Good Luck with the Assignment*!*