List of lists of references – follow the links

Objectives

The **objectives of this activity** are:

- To become familiar with lists of lists

- To become familiar with algorithms involving lists

Consider the following algorithm:

```
make list of nums...
... get N
... create the list innerList with room for N elements
... create the list outerList with room for N elements
... for i from 0 to N-1...
... ... set innerList[i] to hold 0
... for i from 0 to N-1...
... ... set outerList[i] to hold innerList
... for i from 0 to N-1...
... ... for j from 0 to N-1...
... ... ... set outerList[i][j] to hold (N*i + j)
```

Assume N is 4; With the materials you've been given:

1. create two rectangles for innerList and outerList respectively with room for four squares within them

2. Step through the algorithm creating links (with thread) between innerList/outerList and what their contents are

3. As contents change, write out the new value and then move or change the links to match

4. Discuss your findings with your group.

Note: your tutor may ask one or more of the groups in the class to report back to the whole class