

# 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

## Task

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*