

# APCS – Mr. Ascione

## Matrix Mirrors



**OBJECTIVE:** This lab was designed to help you learn how to use a matrix, an array of arrays. It's all done with smoke and mirrors... and matrices.

**SPEC:** Read the comments for each method in `MatrixMirror.java`. You will need to build 2 constructors, a method to populate the arrays initially and a `toString`. Once you have that part working, you can begin working on the mirror methods. The client is fully coded for you... you just have to get the object working. Think about your rows and columns... if you can visualize it, you can code it. The name is Neo... Neo Ascione ☺

**Extra Credit:** The Major and Minor diagonal mirrors are extra credit.

### Files Needed:

`MatrixMirror.java`

`MatrixMirrorClient.java`

### SAMPLE OUTPUT:

```
C:\Windows\system32\cmd.exe
Original Matrix:
1      2      3      4
5      6      7      8
9      10     11     12
13     14     15     16
17     18     19     20

After Vertical Mirror Left to Right:
1      2      2      1
5      6      6      5
9      10     10     9
13     14     14     13
17     18     18     17

Original Matrix:
1      2      3      4
5      6      7      8
9      10     11     12
13     14     15     16
17     18     19     20

After Horizontal Mirror Top to Bottom:
1      2      3      4
5      6      7      8
9      10     11     12
5      6      7      8
1      2      3      4

Original Matrix <Square>:
1      2      3      4
5      6      7      8
9      10     11     12
13     14     15     16

After Major Diagonal Mirror <Top Left to Bottom Right>:
1      5      9      13
5      6      10     14
9      10     11     15
13     14     15     16
```