

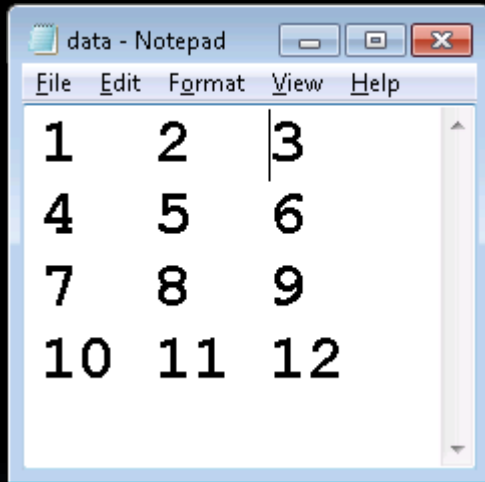
How to Visualize, Load, and Display 2d arrays



# MORE ON ARRAYS

# Loading from a File

Given a file containing the following numbers, we want to load them into a 2d array



1	2	3
4	5	6
7	8	9
10	11	12

We have choices about how we want to store this information

# Loading from a File

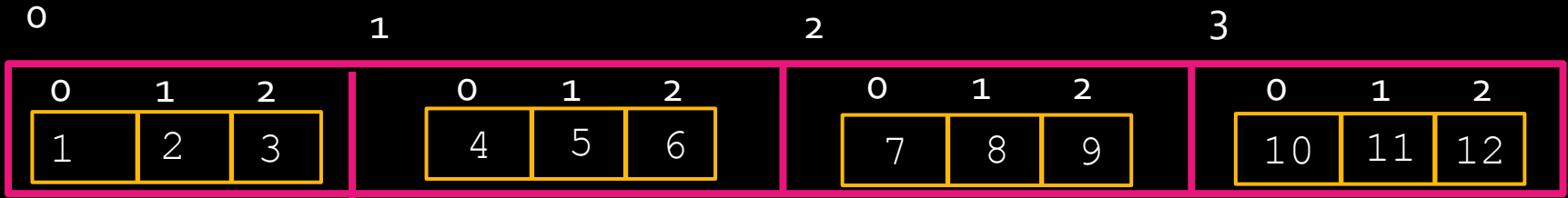
We need to pick the rows and columns

1	2	3
4	5	6
7	8	9
10	11	12

0	1	2	0	1	2	0	1	2	0	1	2
1	2	3	4	5	6	7	8	9	10	12	13

# Loading from a File

- Generating indexes for coordinates



0,0 1	0,1 2	0,2 3
1,0 4	1,1 5	1,2 6
2,0 7	2,1 8	2,2 9
3,0 10	3,1 11	3,2 12

So we need two loops to generate index numbers like this...



0,0  
0,1  
0,2  
1,0  
1,1  
1,2  
2,0  
2,1  
2,2  
3,1  
3,1  
3,2

# Loading from a File

## Generating indexes for coordinates

```
0,0
0,1 double[][] grid = new double[4][3];
0,2
1,0 for(int i=0; i<grid.length; i++)
1,1 {
1,2     for(int j=0; j<grid[i].length; j++)
2,0     {
2,1         grid[i][j] = scanner.nextDouble();
2,2     }
3,0 }
3,1
3,2
```

# Display a 2D Array

```
data - Notepad
File Edit Format View Help
1 2 3
4 5 6
7 8 9
10 11 12
```



0,0 1	0,1 2	0,2 3
1,0 4	1,1 5	1,2 6
2,0 7	2,1 8	2,2 9
3,0 10	3,1 11	3,2 12



```
BlueJ: Terminal Window...
Options
1 2 3
4 5 6
7 8 9
10 11 12
```

# Display a 2D Array

Generating indexes for coordinates

```
0,0  
0,1  
0,2   for(int i=0; i<grid.length; i++)  
1,0   {  
1,1       for(int j=0; j<grid[i].length; j++)  
1,2       {  
2,0           System.out.printf("%1$3d",grid[i][j]);  
2,1       }  
2,2   System.out.print("\n");  
3,0   }  
3,1  
3,2
```







# Conclusion