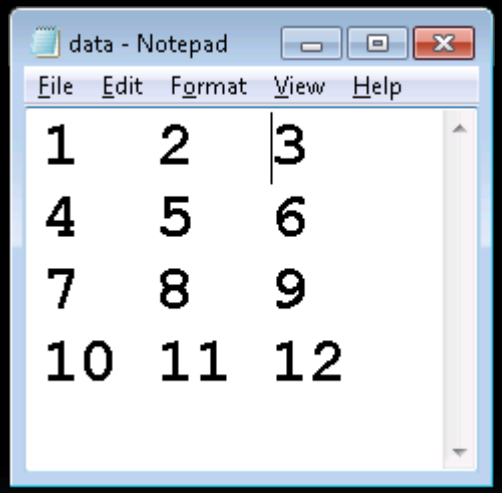
How to Visualize, Load, and Display 2d arrays

MORE ON ARRAYS

Loading from a File

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

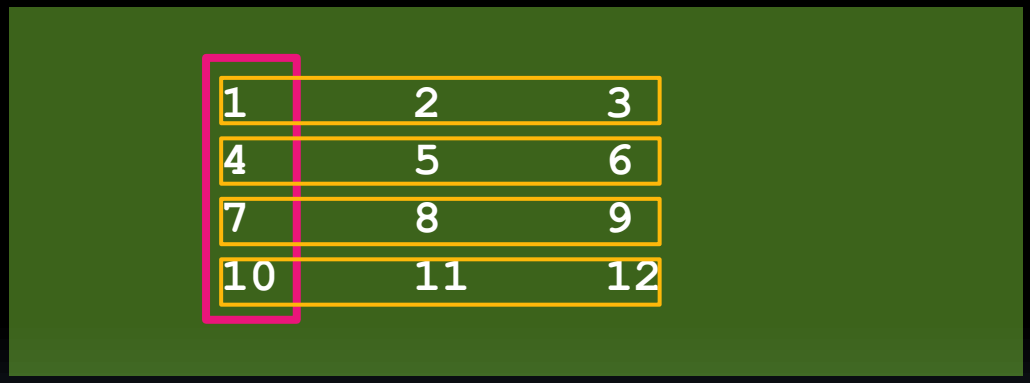


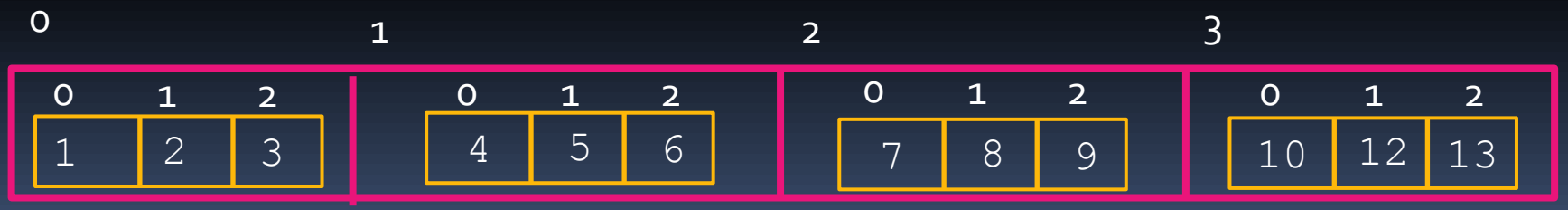

```
1   2   3
4   5   6
7   8   9
10  11  12
```

We have choices about how we want to store this information

Loading from a File

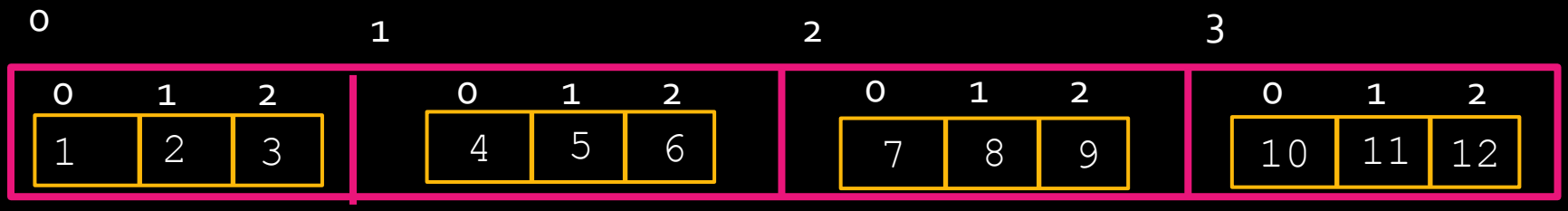
We need to pick the rows and columns





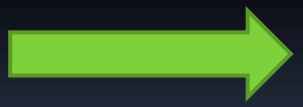
Loading from a File

- 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

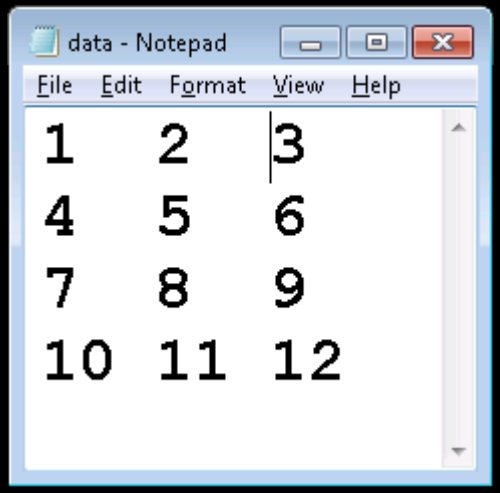
Generating indexes for coordinates

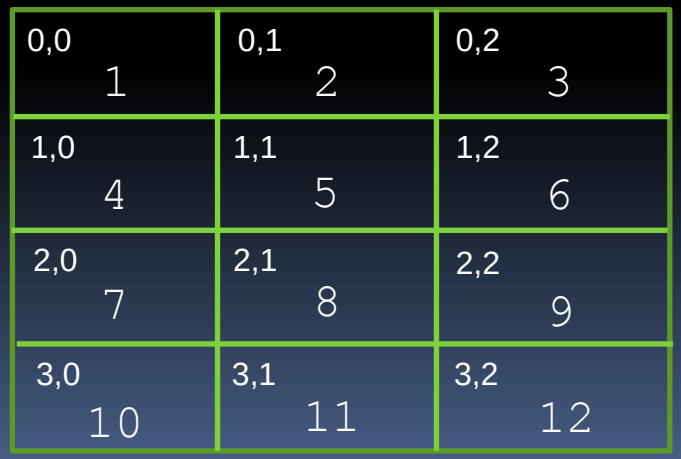
0,0
0,1
0,2
1,0
1,1
1,2
2,0
2,1
2,2
3,0
3,1
3,2

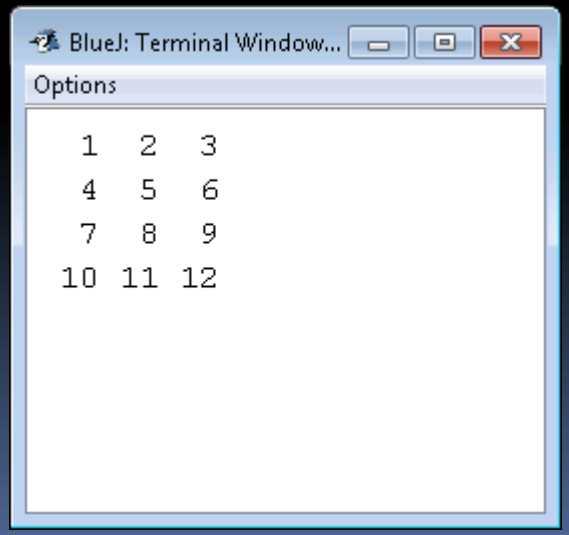
```
double[][] grid = new double[4][3];

for(int i=0; i<grid.length; i++)
{
        for(int j=0; j<grid[i].length; j++)
        {
                grid[i][j]  = scanner.nextDouble();
        }
}
```

Display a 2D Array







Display a 2D Array

Generating indexes for coordinates

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

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

Conclusion