



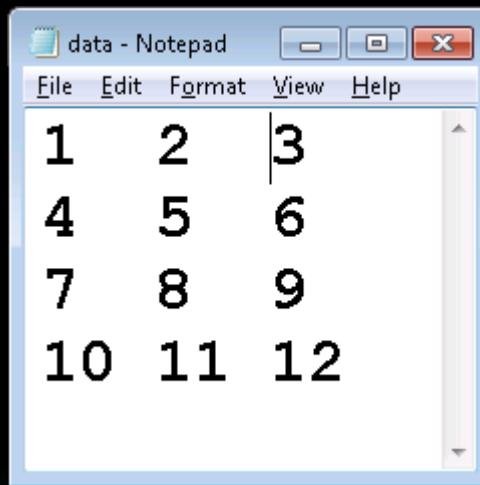
How to Visualize, Load, and Display 2d arrays

MORE ON ARRAYS



Loading from a File

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



A screenshot of a Windows Notepad window titled "data - Notepad". The window contains the following text:

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

The last row of the table has a cursor at the end of the number '3'. To the right of the table, there is a green rectangular area containing the same data in a different format:

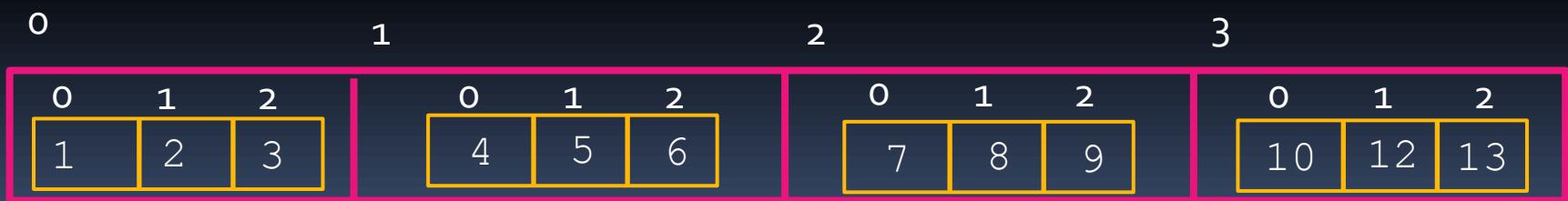
1	2	3
4	5	6
7	8	9
10	11	12

We have choices about how we want to store this information

Loading from a File

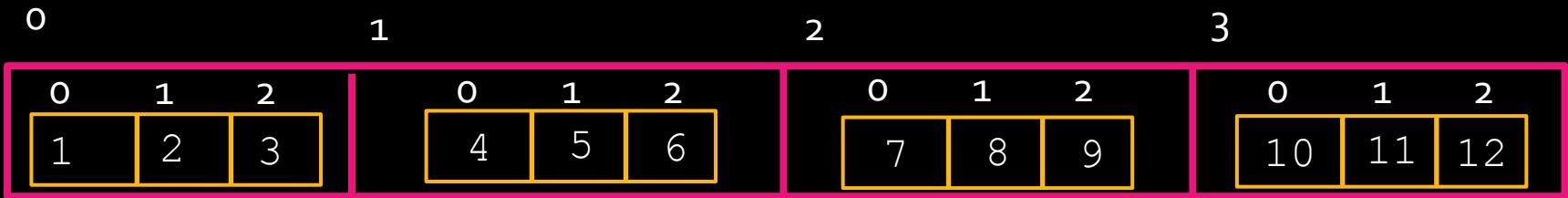
We need to pick the rows and columns

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



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...



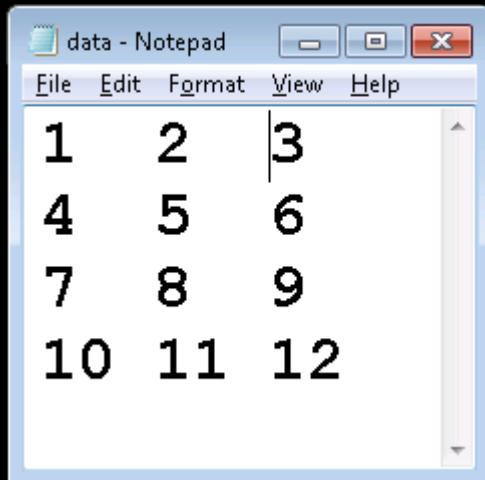
0,0
0,1
0,2
1,0
1,1
1,2
2,0
2,1
2,2
3,0
3,1
3,2

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



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



A screenshot of a BlueJ terminal window titled "BlueJ: Terminal Window...". The window shows the following text output:

```
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