Exercise 23

Thema: Arrays

Task
Write a program that simulates a spreadsheet system.

Subtask 1.1:
Write a method that creates a two-dimensional integer array of length y and width x and fills it with random numbers between 1 and 100.

Subtask 1.2:
Write a method that displays a passed array, e.g

7	88	31	2
66	34	56	93
8	13	78	35
60	82	1	88
27	45	71	95

Subtask 1.3:
Expand subtask 1.1 so that the program adds up both the rows and the columns and displays them in the output.

7	88	31	2	128
66	34	56	93	249
8	13	78	35	134
60	82	1	88	231
27	45	71	95	238
168	262	237	313	

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Subtask 1.4:

Expand subtask 1.3 so that the user can change numbers in the array. To do this, the user must enter a coordinate and the new number. This is inserted into the array. The array appears with new calculations. **Write a new method for this.**

Which entry should be changed?
Line: 4
Column: 3
New number: 0

7 88 31			2	128
66 34 56 93				249
8 13 78 35				134
60 82		0 88		230
27 45 71 95				238
168	262	236	313	

Task 1.5

Determine how often each possible number occurs. Use another array to solve. **Write a new method for this.**

Task 1.6

Rewrite your program so that the array size and the number of random numbers are variable and can be entered.