Two-Dimensional Arrays Solutions

Two-Dimensional Arrays

- Write a program which
  - Initializes a two-dimensional array
  - Prints out the value of an element from the array
  - Iterates over all the elements and prints out their elements in order

Flattened two-dimensional array

- Repeat the previous exercise, but with the data "flattened" into a one-dimensional array

- Why is this useful?
  - A two-dimensional array is an array of arrays. Accessing an element in an inner array requires a pointer dereference
  - A one-dimensional array is a simple array. Accessing an element in a "flattened" array requires calculating the offset of the element
  - On modern computers, calculating the offset is much faster than dereferencing a pointer
  - Flattened arrays improve performance, at the expense of making the code more complex