CMPINF0401 Recitation

TUESDAYS 11:00-12:50

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SLIDES CREDIT TO PROF. DEVINE'S MATRICES.PDF

Overview

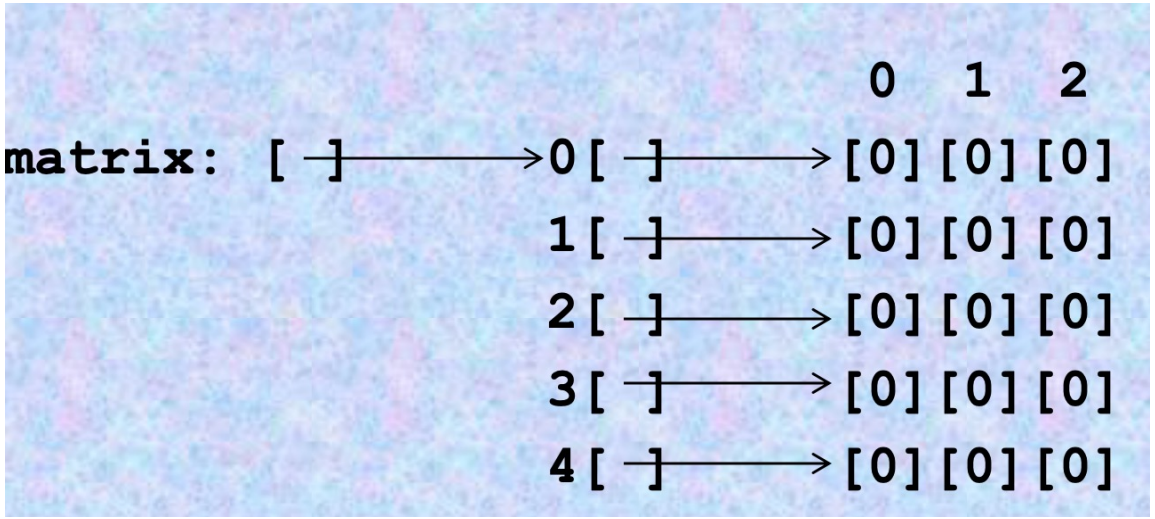
- Matrices
- Lab 6b

Matrices/Two-Dimensional Arrays

- A 2D array is just an array of arrays
  - We may visualize this as a grid to make it look like a matrix (like we learned in math classes)
  - But it's just an array of arrays
- Initialized as so: int matrix[][];
  - This makes an array of int arrays
- int[][] matrix = new int[5][3]
  - Makes a 5x3 array of arrays

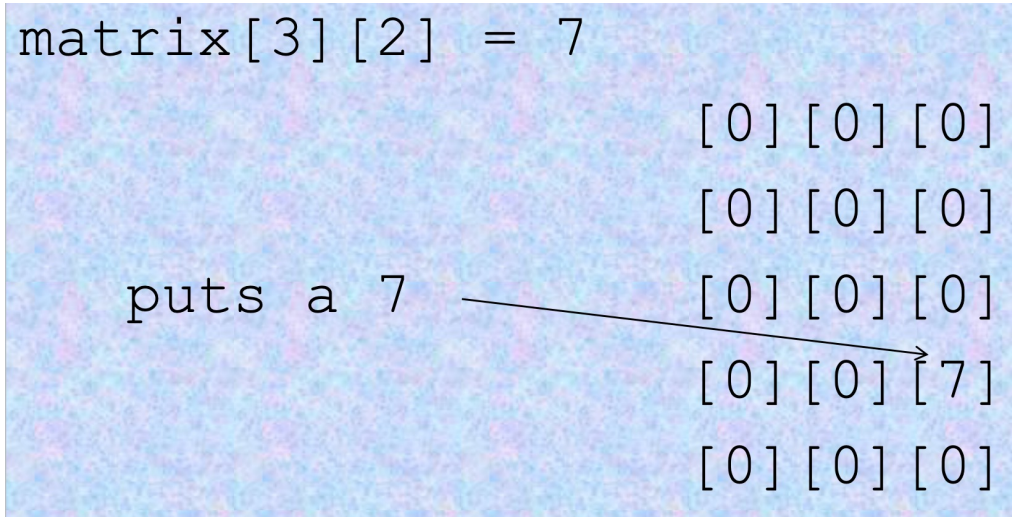
Matrices/Two-Dimensional Arrays

- Each row of this array is a 1D array. So, instead of refVar[index] holding a single int element, it contains an array of int elements.
- Properties of this matrix:
  - matrix.length == 5
  - matrix[0] is a reference to the first array
  - matrix[0].length == 3
    - Length of the specific row



Matrices/Two-Dimensional Arrays

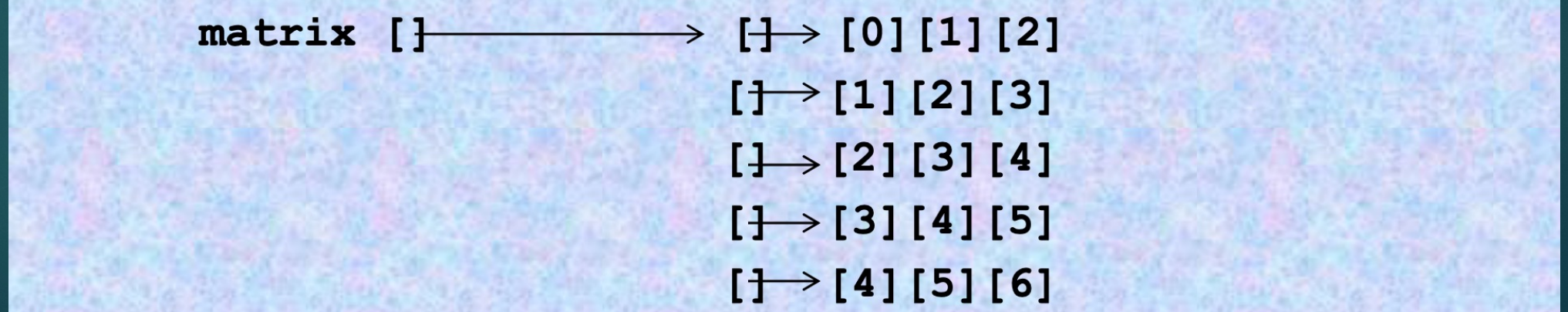
- How to access elements at a specific index:
  - matrix[row][col];



Loop through a 2D array

```
int[][] matrix = new int[5][3];

for (int row=0 ; row < matrix.length ; row++ )
        for (int col = 0 ; col < matrix[row].length ; col++)
                matrix[row][col] = row+col;
```



Lab 6b

- Due 3/7
  - https://canvas.pitt.edu/courses/127916/files/8050368?module_item_id=2735295

Lab 6b

- The goal is to find the words in the two-dimensional array and then print them out.
  - For example, the first word is *dank* and we can see that it spans from board[4][1] to board[4][3].
    - So, make a loop (either for or while) to increment your column index while keeping the row hardcoded and print out letter by letter until the whole word is printed.
  - Follow the same instructions for the next two words as well.