Lecture 7

• Topics Covered
  – Arrays
Arrays

- 2 Steps to create an array
  - Declaration
    - type[] name;
    - type name[];
  - Instantiation
    - name = \texttt{new} type[size];

- Both in one step
  - type[] name = \texttt{new} type [size]
Indexing an array

• To access an item in an array
  – name[index]
  – If index is out of range (i.e. index < 0 || index > size-1), an “Out of Range” error will occur
= and ==

- =
  - When you assign one array variable to another, only references are assigned, not values for each item.
  - In order to copy each item, a loop must happen
  - When an array is passed as a parameter, the reference is passed

- ==
  - If you compare arrays \( a \) and \( b \) with \( == \), it will compare references, not elements
2-D Arrays

• Declaration
  – `int [][] table;`
  – `int table[][];`

• Instantiation
  – `table = new int[row][col];`

• Note: A 2-D array is really an array of arrays (a 2-D array variable is a reference to a reference)