Concept Guide: Arrays

Course: CS 200

Introduction to Java Programming, Comprehensive Version, 11th ed. Text

Chapters: 7 Single Dimensional Arrays, 8 Multidimensional Arrays

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| Concept/Topic: | Text Notes: | Lecture Notes: |
| What is an array? |  |  |
| Primitive  Data  Types:  Storage  Space  (a review) |  |  |
| What is actually stored in an array reference? |  |  |
| How is the array stored in memory? |  |  |
| Declaration |  |  |
| Instantiation |  |  |
| Initialization |  |  |
| Algorithm for user defined array sizes |  |  |
| What are subscripts? |  |  |
| Allowed subscript values:  (Why only these?) |  |  |
| subscript range |  |  |
| What is a partially filled array? |  |  |
| Why would you need a partially filled array? |  |  |
| Algorithm for using a partially filled array |  |  |
| Array Bounds  Checking |  |  |
| Lab Time! |  | Work as a team, but run with 2 sets of input-  use Week 12:Lab Doc 01  **Problem:**  **Create a program to determine your quiz score average**  **Pseudocode solution is listed in Lab Doc 01:**  **Create (declare & instantiate) an int array of size 10**  **called: quizScores.**  **Initialize the first 7 values to your quiz scores thus far**  **in this course from user keyboard input with a**  **“do-while loop”, sentinel value (-1),**  **and counter to keep track of how many values you have**  **assigned to the array.**  **Next, use the counter from the loop above to run a**  **“for loop” to sum your quiz scores.**  **Then, find the average score of your quizzes thus far**  **using the sum divided by the counter.** |
| Lab Time! |  | See this week’s Lab Doc 02 for specs. |
| “The sink sort”  Better known as  The Bubble Sort! |  | |
| Increasing  order |  |  |
| Non-decreasing order |  |  |
| Decreasing order |  |  |
| Non-increasing order |  |  |

Multi-Dimensional Arrays:

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| Concept/Topic: | Text Notes: | Lecture Notes: |
| 2 Dimensional Array |  |  |
| Declaration  (2d array) |  |  |
| Instantiation  (2d array) |  |  |
| Initialization  (2d array) |  |  |
| 2d array processing |  |  |
| multi-dimensional arrays >2 |  |  |
| multi-dimensional array limitations |  |  |