

Lecture Outline

- **Arrays Introduction continued**
 - Why are arrays useful – and some useful methods
 - Array traversal
 - Printing arrays elements
 - Examining arrays elements
 - Arrays as parameters
 - Searching arrays – counting occurrences
 - Array Equality
 - Practical example
- **Friday**
 - Arrays – finish up
 - More random numbers
- **Monday**
 - Review – specific questions

Useful methods

- `java.util` has several useful static methods for manipulating arrays, below are some:

Method name	Description
<code>Arrays.toString(array)</code>	prints the array, returns a string representing the array, such as "[10, 30, 17]"
<code>equals(array1, array2)</code>	returns true if the two given arrays contain exactly the same elements in the same order
<code>fill(array, value)</code>	sets every element in the array to have the given value
<code>sort(array)</code>	arranges the elements in the array into ascending order

- Go over given examples – for your practice

Why are arrays useful?

- Arrays store a large amount of data in one variable.

Example: Read in a file of 1000 numbers, then print out the numbers in ascending order.

- Arrays help us group related data into elements.

Example: For a school exam, open a file of exam scores and count how many students got each score from 0 through 100.

- Arrays let us access data in random order.

Example: Read a file of weather data, store each month's weather stats as an element in a large array, and then examine the stats to find overall weather statistics for the year.