



Data Structures Review

Array

COMP128 Data Structures



Declaring Arrays

Creating an Array

type of the array
(no size)

creates new
array object

```
double[] discounts = new double[35];
```

array name

type and size

A diagram illustrating the components of the Java array declaration `double[] discounts = new double[35];`. The code is shown with four segments highlighted in light blue: `double[]`, `discounts`, `new`, and `double[35];`. Four vertical lines with labels point to these segments: a line from `double[]` points to the label 'type of the array (no size)'; a line from `discounts` points to the label 'array name'; a line from `new` points to the label 'creates new array object'; and a line from `double[35];` points to the label 'type and size'.

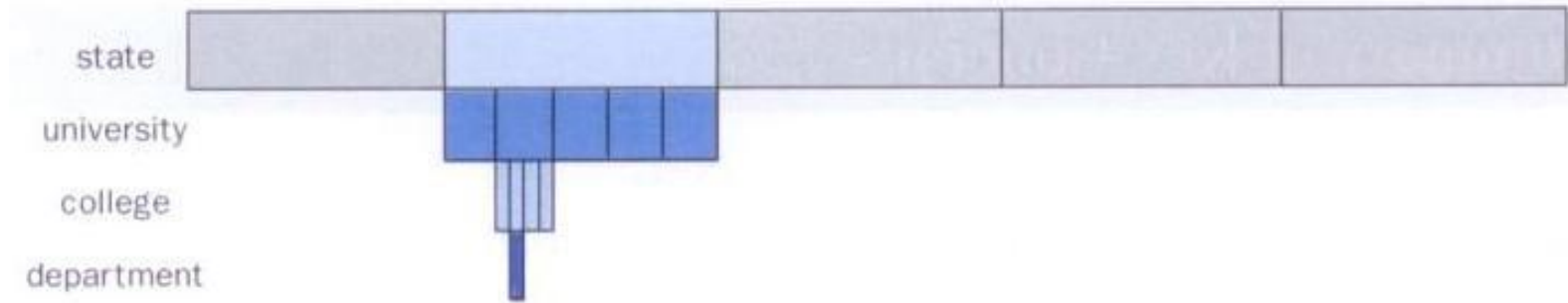
Two-Dimensional Arrays

Expression	Type	Description
<code>table</code>	<code>int[][]</code>	2D array of integers, or array of integer arrays
<code>table[5]</code>	<code>int[]</code>	array of integers
<code>table[5][12]</code>	<code>int</code>	integer



Multidimensional Arrays

- One way to visualize a four-dimensional array:



- Two-dimensional arrays are common, but beyond that usually an array has other objects involved



Command-Line Arguments

- The signature of the main method indicates that it takes an array of String objects as a parameter
- These values come from *command-line arguments* that are provided when the interpreter is invoked
- For example, the following invocation of the interpreter passes three String objects into main

```
> java StateEval pennsylvania texas arizona
```

- These strings are stored at indexes 0-2 of the array parameter of the main method

