

- What index value does the third element of an array have?  
The third element = the index number 2.
- Write the declaration for an array named quantities that stores 20 integers.  
`int[] quantities = new int[20];`
- Write the declaration for an array named heights storing the numbers 1.65, 2.15, and 4.95.  
`double[] heights = new double[3];`  
`heights[0] = 1.65;`  
`heights[1] = 2.15;`  
`heights[2] = 4.95;`
- Write a for-each statement that displays the integer values stored in the array named grades.  
`for (int grade: grades) {`  
    `System.out.println(grade);`  
`}`
- How does passing an entire array to a method differ from passing a single element of the array?  
Passing an entire array allows the array to change the original array while passing of the array only passes a copy, so the original remains unchanged.
- Why are offset array indexes required in some cases?  
Offset array indexes are needed to align zero-based arrays with specific requirements, such as 1-based indexing, working with subarrays, or simplifying calculations for clarity and efficiency.
- What output is displayed by the statements below?  
`String name = "Elaine";`  
`System.out.println(name.charAt(3));`

The output ⇒ i