

Quiz: String and Arrays

1. Fill in the boxes with the correct Java code segment

- a) Write a statement that **declares** a local variable and **initializes** it to the value 1.5.

- b) Write a statement that **declares** a local array and **initializes** it with the integer digits 0 through 5, inclusive.

- c) Write a statement that **declares** and **initializes** an array of fifty **boolean** variables.

- d) Consider the following code segment with preceding line numbers:

```
1 | boolean comp = ( str1 == str2 );  
2 | System.out.print( comp );
```

Both `str1` and `str2` are valid `String` objects, and both contain the same sequence of characters; however, the equality comparison `str1 == str2` returns the value `false`. Please rewrite line 1 of the code using the `equals` method such that `comp` will be evaluate to `true` when the `str1` and `str2` contain the same sequence of characters, and `false` if they do not.

- e) Rewrite the answer to part (d) using the `compareTo` method.

- f) Write a chained `if` statement that determines which of the strings "care", "careful", or "careful" occurs in a variable `text` of type `String`, and prints exactly one corresponding message. If `text` contains "carefully", print "Adverb form.". If `text` does not contain "carefully" but contains "careful", print "Adjective form.". If `text` contains neither substring, print "Noun form.". Assume any string will contain at least one of these forms. For example:
- If `text` has the value "Code carefully.", the code should print only "Adverb form.".
 - If `text` has the value "He is careful.", the code should print only "Adjective form.".
 - If `text` has the value "Provide care.", the code should print "Noun form.".

Use only `String` methods from the AP Java Subset (which does not include the method `contains`).

b) Write method `distanceFromOrigin` such that it returns the distance on a cartesian coordinate plane from the origin to the point specified by parameters `x` and `y`. Recall that this distance is calculated with the formula: $d = \sqrt{x^2 + y^2}$.

```
public static int linearSearch(String[] arr, String value) {
```