

AP Computer Science A

Name: _____ Score: _____

1. A program that runs correctly is...
 - ☐ never biased
 - ☐ not automatically ethical
 - ☐ always private
 - ☐ always ethical
2. A structure that stores many values of the same type under one name is a(n)...
 - ☐ constructor
 - ☐ array
 - ☐ boolean
 - ☐ int
3. The correct condition to traverse an array `a` with an index is...
 - ☐ `i < a.length()`
 - ☐ `i <= a.length`
 - ☐ `i > 0`
 - ☐ `i < a.length`
4. To read a text file, you attach a Scanner to a...
 - ☐ File object
 - ☐ String
 - ☐ an int
 - ☐ `System.in`
5. How do you get the number of elements in an ArrayList list?
 - ☐ `list.length`
 - ☐ `size(list)`
 - ☐ `list.length()`
 - ☐ `list.size()`
6. The array traversal patterns (sum, count, max) work the same for an ArrayList.
 - ☐ True ☐ False

7. For a 3-row, 4-column grid, what does `grid.length` equal?

8. The for-each form can modify (write to) grid cells.

☐ True ☐ False

9. Both selection and insertion sort work in place (no second array).

☐ True ☐ False

10. Both recursive binary search and merge sort are divide-and-conquer algorithms.

☐ True ☐ False

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1. **not automatically ethical**

Correct code can still violate privacy or amplify bias.

2. **array**

An array is a fixed-size, same-type collection.

3. **$i < a.length$**

Valid indices are $0..length-1$, so $i < a.length$.

4. **File object**

`new Scanner(new File("..."))` reads a file.

5. **list.size()**

`ArrayList` uses `size()`; arrays use `.length`.

6. **True**

Just swap `a[i]/a.length` for `list.get(i)/list.size()`.

7. **3**

`grid.length` is the number of rows = 3.

8. **False**

For-each is read-only; use indexed loops (`g[r][c] = ...`) to write.

9. **True**

They rearrange the same array.

10. **True**

Both split the problem in half and recurse.