# Quiz 3 (Oct 4)

By taking this quiz, you agree to adhere to the honor code of the class.

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Name: netid:

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Write your name and netid on **both** sides of the paper. Write your solution **first on this side**. If space is not enough, write to the other side. You can ask for extra paper if necessary.

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Name: netid:

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Imagine you have a list of characters. Write a recursive method `int customCount(char[] arr, int size)` that takes in an array outputs a sum of how many 'a' 's are at or before every position:

array: [ j , k , **a** , b , **a** , p , h , **a** ]

number a's: 0 + 0 + 1 + 1 + 2 + 2 + 2 + 3 = 11 -> output

Hint: Use 2 auxiliary variables: 1) as in binary search, `pos` the index you're at and 2) as in fibonacci, `a_seen_so_far` the number of a's you've seen so far.

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Reference solution

```java
public class quiz {
    public static int customCount(char[] arr, int size) {
        return customCount(arr, start:0, size, count:0);
    }
    public static int customCount(char[] arr, int start, int end, int count) {
        if (start == end) {
            return 0;
        }
        if(arr[start]=='a') {
            count++;
        }
        return count + customCount(arr, start+1, end, count);
    }
    Run | Debug
    public static void main(String[] args) {
        char arr[] = {'j', 'k', 'a', 'b', 'a', 'p', 'h', 'a'};
        int size = arr.length;
        System.out.println(customCount(arr, size));
    }
}
```