

CS-2852 - Dr. Durant - Quiz 4
Spring 2014, Week 6

1. (2 points) In addition to "empty," what are the methods that are part of a pure stack interface?

push, pop, poll

2. (1 point) What do the acronyms LIFO and FIFO stand for?

*last-in, first-out
first-in, last-out*

3. (3 points) Describe how a queue differs from a stack, using the terms LIFO and FIFO appropriately.

*a queue has FIFO behavior, like a line of people @ a grocery store.
a stack has LIFO behavior, like a stack of plates,
or method calls in a program.*

4. (2 points) Explain the difference between the "add" and "offer" methods of the pure queue interface. (Hint: Under normal circumstances, they have identical behavior.)

When the queue is full, add() throws an exception while offer() just returns false. You might prefer the latter if a full queue is normal & doesn't require throw an exception up the more call levels.

5. (2 points) An ArrayList contains 42 alphabetized, lowercase words. The word you're searching for is at index 10. How many calls (initial and recursive) of a recursive binary search method will be required to locate your word? Show your work.

	<i>inclusion</i>		<i>exclusive</i>	
	↓		↑	
	start	end	mid	
initial call:	0	42	21	→ 10 < 21 ∴ left
1st recursion call:	0	21	10	→ found it!

2 calls