

1.
 - Arrays and stacks can both carry the same data types
 - Both arrange elements in a linear order
 - Both are implemented with set sizes
2. Stacks are used by programmers when matching braces, if and else statements, parentheses, and recursive statements.
3. 8 13
8 12
4. In this problem, plates can only be added/removed from one location, the top. Since hot dishes are added to the pile, the customers are only able to access the top dishes, rendering the cold dishes washed long ago inaccessible. It is similar to a stack, as data far below the top may be unused.
5. 5 8
12 5
6. In a FIFO, the first element to be added is the first to be removed. An example of a data structure that follows this is a queue.
In a LIFO, the last element to be added is the first to be removed. A stack is an example of this.
7.
 - Orders at Domino's Pizza use a queue
 - A matchmaking system in a competitive video game, players are matched based on the order they joined
8.
 - a) False, a stack only has a top, front and rear are for queues
 - b) True
 - c) False, top is the last item pushed
 - d) False, isEmpty returns a boolean
 - e) True
 - f) False, removals are at the front of the queue
 - g) False, enqueue is done at the end of the queue
 - h) True
 - i) False, a node is part of a LinkedList, not a stack
 - j) True
 - k) True