

1. An array and a stack are both used to contain items in a specific order.
2. A stack is excellent when creating a program that needs some sort of history storage, like a browser.
3. The output generated by running this code would look as follows:
8 13
8 12
4. If all the plates are in just one pile, the most recently added plate is always the first one removed, which is the exact same principle for a Stack data type: the most recently added object must be the first one to be removed.
5. The output would look like this:
5 8
12 5
6. FIFO stands for First In First Out, and it is how a queue works, where the first object added to the queue is the first to be removed. LIFO stands for Last In First Out, and it is how a stack works, where the most recently added object is the first to be removed.
7. A conveyor belt in a factory delivering materials to a machine. A Ferry boat where cars drive into the back of the ship, and drive out of the front of the ship.
8. A: False, the Stack data type only has a top, where the most recently added item can be accessed.
B: True
C: False, the top refers to the most recently added item, not the first item to be added.
D: False, the isEmpty method returns a boolean value, so true or false.
E: True
F: False, any and all removals are made at the front of the Queue, the rear is used to add items.
G: False, the enqueue method adds an object to the rear of the queue
H: True
I: False, a node is used for referencing an item in a linked list, which is an entirely different data structure.
J: False, a length operator would return the maximum amount of items that can be held within a Stack or Queue, however, it would not return the actual number of items within the Stack or Queue.
I: True