

## Queues

The following data structure is known as a queue:

apple	banana	cherry	donut	eggplant	fig
Front					Rear

1. What objects are at the front and the rear of the queue?

2. An **add** operation inserts an item at the rear of the queue. What will the above queue appear as following **add(grapes)** followed by **add(honey)**? (Be sure to indicate the front and rear of the queue.)


3. Assuming you began with an initially empty queue, what would the queue appear as after performing the following operations? (Again, be sure to indicate the front and rear of the queue.)

**add(pear)**  
**add(coconut)**  
**add(fudge)**  
**add(onion)**  
**add(peach)**


4. A remove operation removes and returns the item at the front of the queue. What would the queue appear as after performing two remove operations?

apple	banana	cherry	donut	eggplant	fig
Front					Rear

5. Assuming you begin with an initially empty queue, what would the queue appear as after performing the following operations? (Be sure to indicate the front and rear of the queue.)

**add(w)**  
**add(i)**  
**add(n)**  
**remove()**  
**add(t)**  
**add(e)**  
**remove()**  
**remove()**  
**add(r)**