Queue with Two Stacks

Implement a Queue class using two stacks. The Queue should have the following methods:

enqueue: add an item to the end of the collection  
 dequeue: remove an item from the beginning of the collection  
  
Input: N/A  
Output: Queue Class

# Example

enqueue(1), enqueue(2), enqueue(3), dequeue() => 1

# Constraints

enqueue : Time Complexity: O(1) , Auxiliary Space Complexity: O(1)  
dequeue: Time Complexity: O(N), Auxiliary Space Complexity: O(1)  
  
1. May not use other data structures other than the two Stacks that are given  
2. Assume the queue will only take integer values  
3. May use up to two instances of the Stack class  
4. Stack class has the following methods:  
 push: add an item to the end of the collection  
 pop: remove an from the end of the collection  
 size: return the number of items in the stack

# Solution

1. Create two stacks named ‘inbox’ and ‘outbox’
2. For the enqueue method, push the value into the ‘inbox’
3. For the dequeue method, check the to see if the ‘outbox’ contains items
4. If the ‘outbox’ contains items, pop from the ‘outbox’ and return its value
5. Otherwise for each item in the ‘inbox’ pop it out and push it into the ‘outbox’
6. Then perform Step 4.

# Notes

Extremely helpful to diagram out the two stacks from the beginning.

# Resources

http://www.geeksforgeeks.org/queue-using-stacks/