

# Synchronous Queue

It is the same as blocking queue, but with a size of 1.

Blocking queue, as discussed earlier, is a queue which is thread safe and can be accessed by multiple producer and consumer threads for putting and reading elements from the queue.

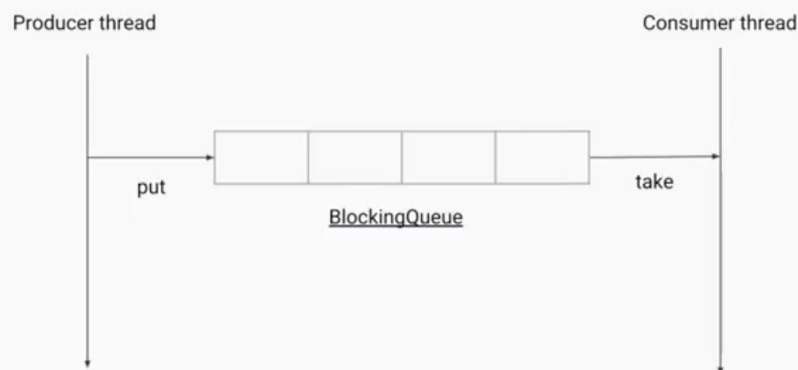
Consumer thread will be blocked if the queue is empty, just like blocking queue.

***Difference with the blocking queue is that in this queue, the Producer thread is blocked even if the queue is empty. It will remain blocked and not add anything to the queue unless there is a consumer thread which is there to pull elements from it. As soon as there is a consumer thread available, it starts inserting.***

In fact, synchronous queue has no size at all.

Since producer requires the consumer to be present, there is a direct handoff. It does not require to store elements.

## Basic BlockingQueue flow...

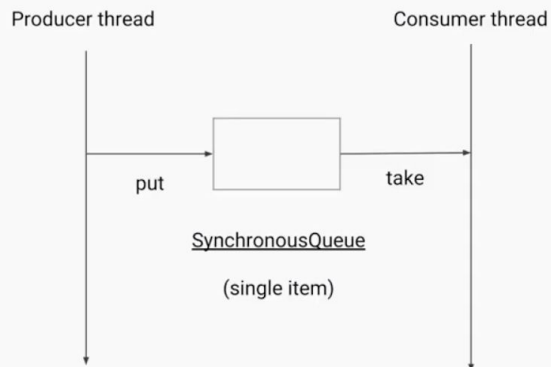


# What's the point?

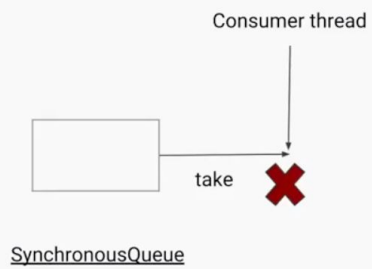
The point is:

`SynchronousQueue` is same as `BlockingQueue` but with size of 1

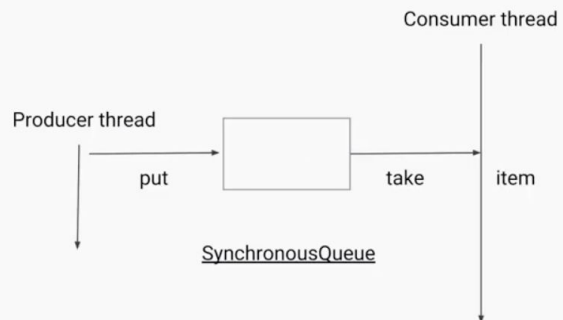
## `SynchronousQueue` flow...



## SynchronousQueue take




## SynchronousQueue take



In fact...

SynchronousQueue has no size at all..

There is a direct handoff between Producer and Consumer thread.

Press  to exit full screen

That's why...

- No peek method
- No iterate method
- Perfect for handoffs

[https://www.youtube.com/watch?v=QCMt324j64U&list=PLhfHPmPYPPRk6yMrcbfafFGSbE2EPK\\_A6&index=22](https://www.youtube.com/watch?v=QCMt324j64U&list=PLhfHPmPYPPRk6yMrcbfafFGSbE2EPK_A6&index=22)