

# Inter-Thread Communication

(Multi-Threading)

{P2-Producer and Consumer Problem}

Chapter-4

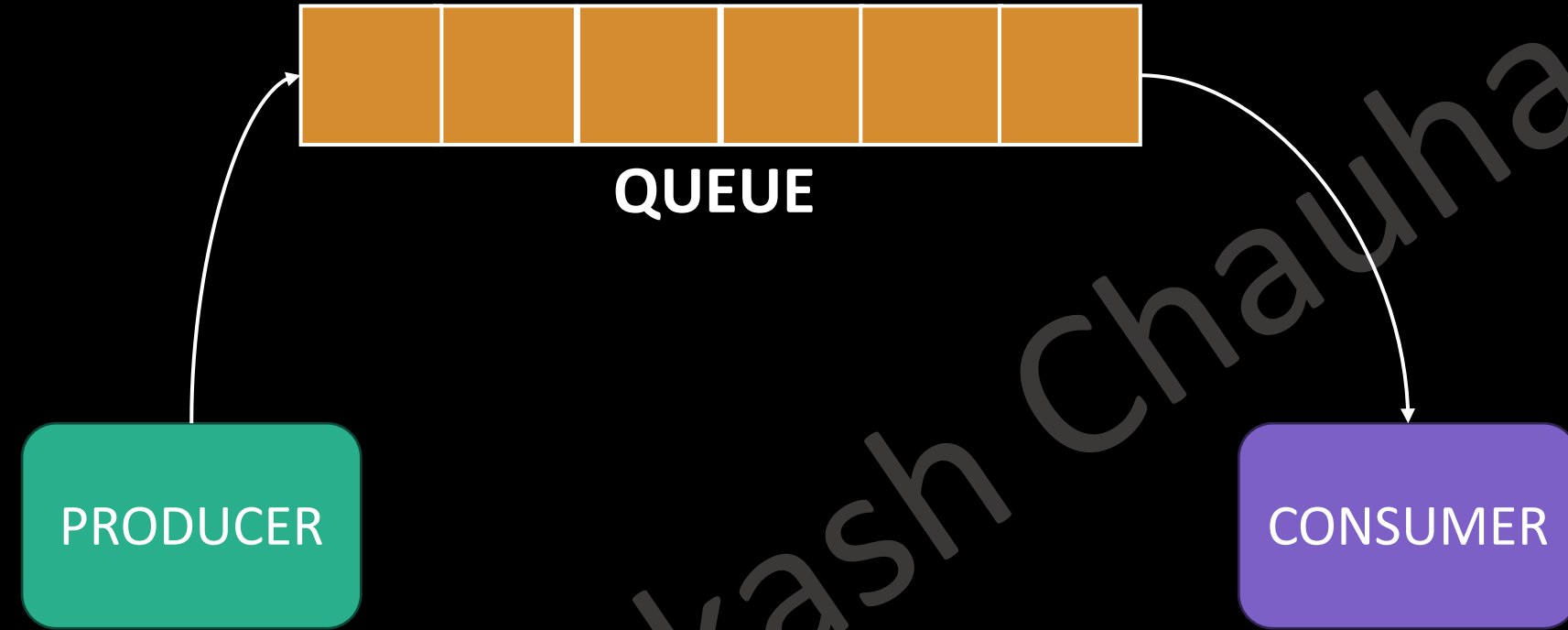
# What is the Producer and Consumer?

- The role of the producer involves creating data, placing it into the buffer, and then repeating the process. Simultaneously, the consumer is tasked with extracting the data from the buffer, one unit at a time.

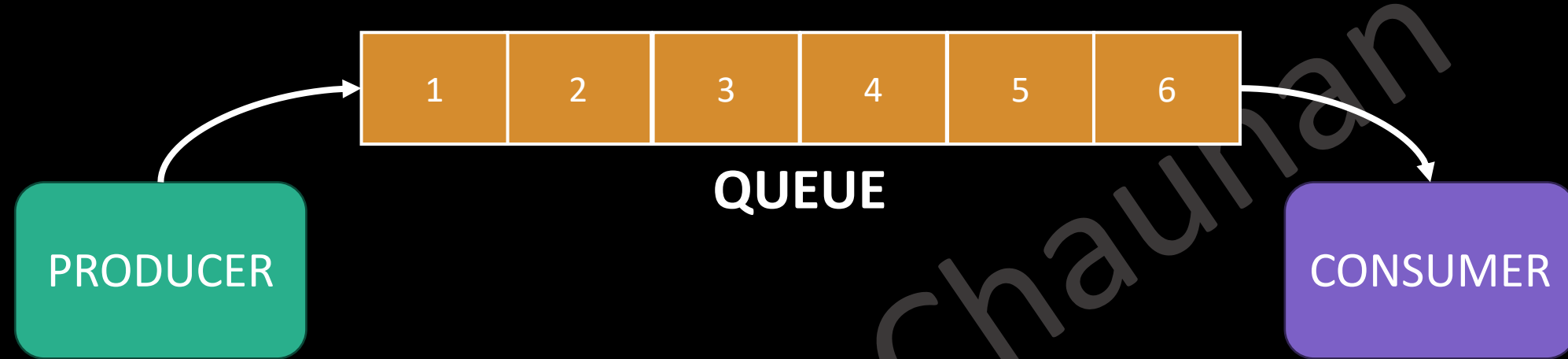
## Then what is the Problem?

- To ensure the producer refrains from adding data when the buffer is full, and the consumer avoids attempting to remove data from an empty buffer.

# Problem (Real Life Example)



# Solution of this problem



Producer{

```
if(queue is full){  
    Wait();  
}  
queue.add(7);  
notify();  
}
```

Consumer{

```
if(queue is empty){  
    wait();  
}  
queue.remove();  
notify();  
}
```