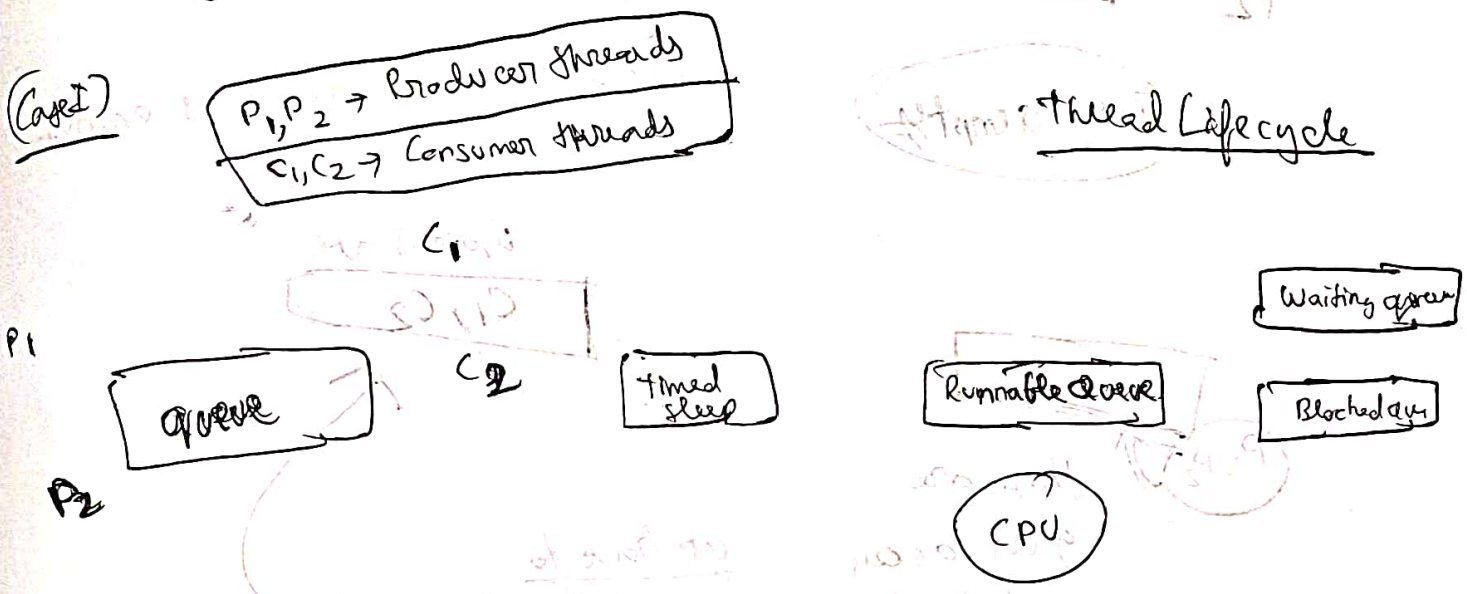
In the producer, Consumer problem, I was getting confused, the notifyAll() significance and why can't we handle it using the already used synchronized blocks.

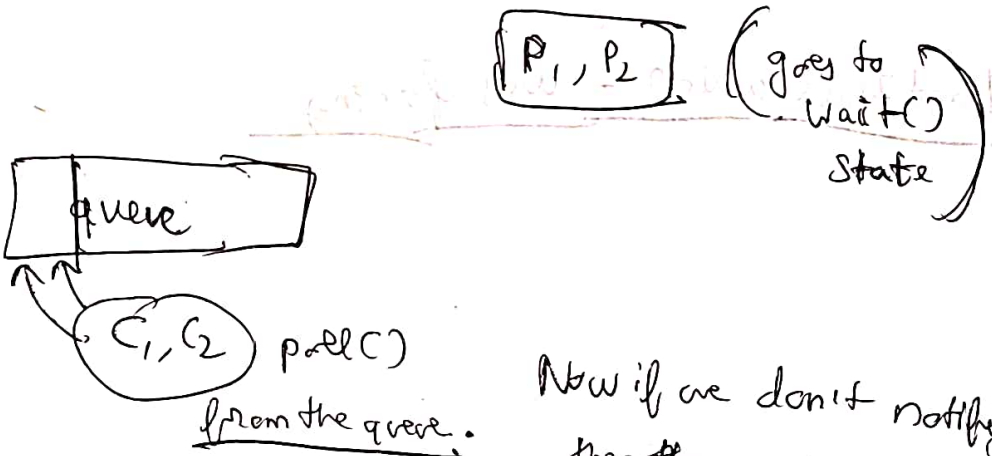
(Case I)

P_1, P_2 → Producer threads
C_1, C_2 → Consumer threads



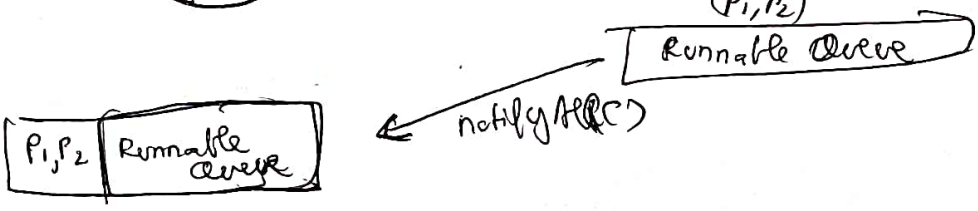
Imagine the queue is full,

P_1, P_2 threads come to produce messages,



Now if we don't notify then the producer threads, P_1, P_2 won't move to the Runnable queue

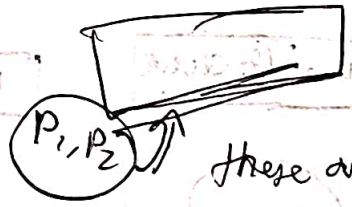
So P_1, P_2



Case 2

C1, C2 comes for queue is empty

wait state
C1, C2



these are given access to the queue and they produce,

we have to call notifyAll() to bring these processes out into the readyState().

Last issue which I was facing