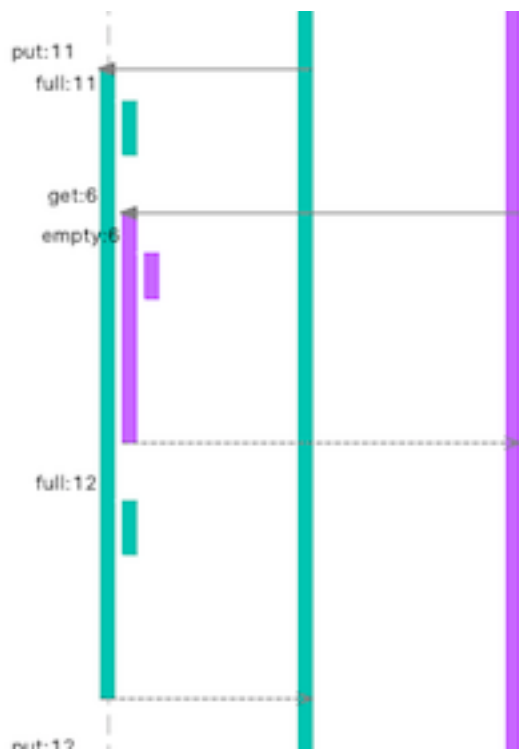


- (a) Explain with reference to the sequence diagram: At which point did the producer have the wait because the dropbox was full? Name the specific call on put() when this happened.

Ans: If we look at the sequence diagram then we can clearly see that when the producer was trying to put 11 on the buffer, it had to wait because the buffer was full. The call was when producer was trying to put 11 on the buffer.



- (b) Explain with reference to the state diagram: What is the smallest set of fields in class DropBox that you would track in order to prove that the dropbox became full?

Ans: The state diagram of Count variable shows that when it's state became 5 it returned back to one of the previous states which could be either 4,3,2,1, 0. Hence we can conclude that the smallest set of fields we would need to track would be the variable Count, and when it's value becomes 5 we can prove that it is full. If it's value is less than 5 then we can infer that both producer and consumer can either put or get values into in or from it.