1. **In the example of defalcation, represent in the group at least one case of the execution of the Chandy-Lamport protocol. You must learn to deduce that a correct execution of the protocol always obtains a consistent cut. Prepare a report that (a) includes the execution of the protocol and describes the global state achieved, demonstrating that it is consistent, and (b) explain, based on the inconsistent cut of the defalcation example and based on the conditions imposed by the Chandy-Lamport protocol, why this protocol could never produce such a cut.**
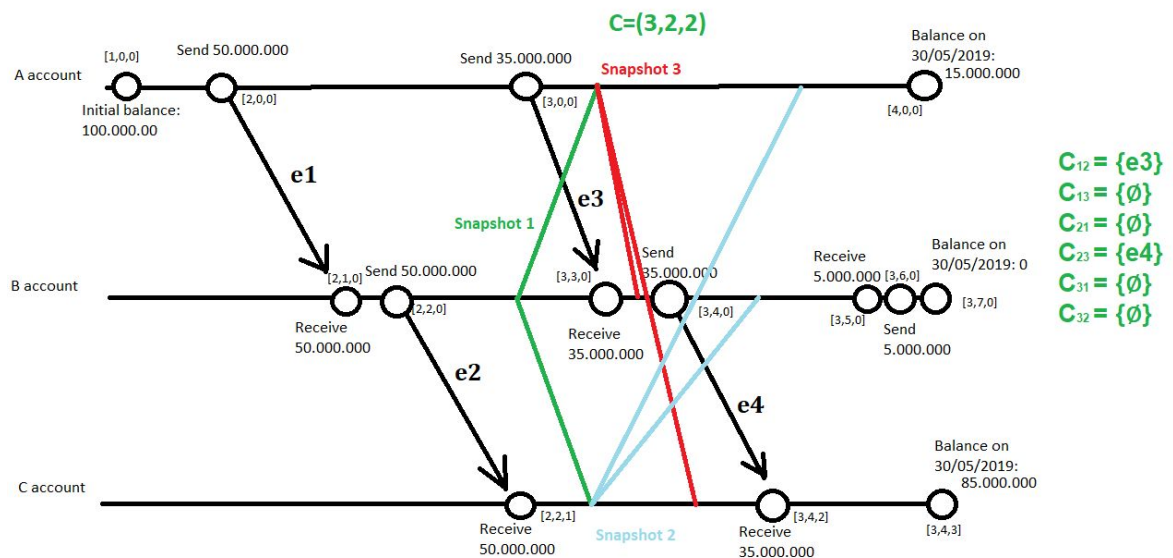
a) The protocol is started by P2 who broadcasts a snapshot to every other process and it saves its own state. P3 saves its own state and sends a snapshot to the rest of the processes, and it starts logging the FIFO channels communications. Meanwhile P1 receives the initial snapshot and later on the snapshot from P3, with all snapshots received the protocol is completed and we can compose the global state

The cut can be seen generated by the green line of the first snapshot sent by P2, the FIFO channels can be seen as well in the rightmost part of the picture. The three vector clocks at the time of their snapshots will be:

V1=[3 0 0]

V2=[2 2 0]

V3=[2 2 1]

We can demonstrate that is consistent by checking the vector clocks to ensure that the receiver does not have more information than the sender.

As we can see in the main diagonal of this matrix(formed of V1,V2,V3) it is always the highest value or equal to others, so we know that it was done consistently.

b) We will be using our inconsistent cut as presented in activity 2.3.a
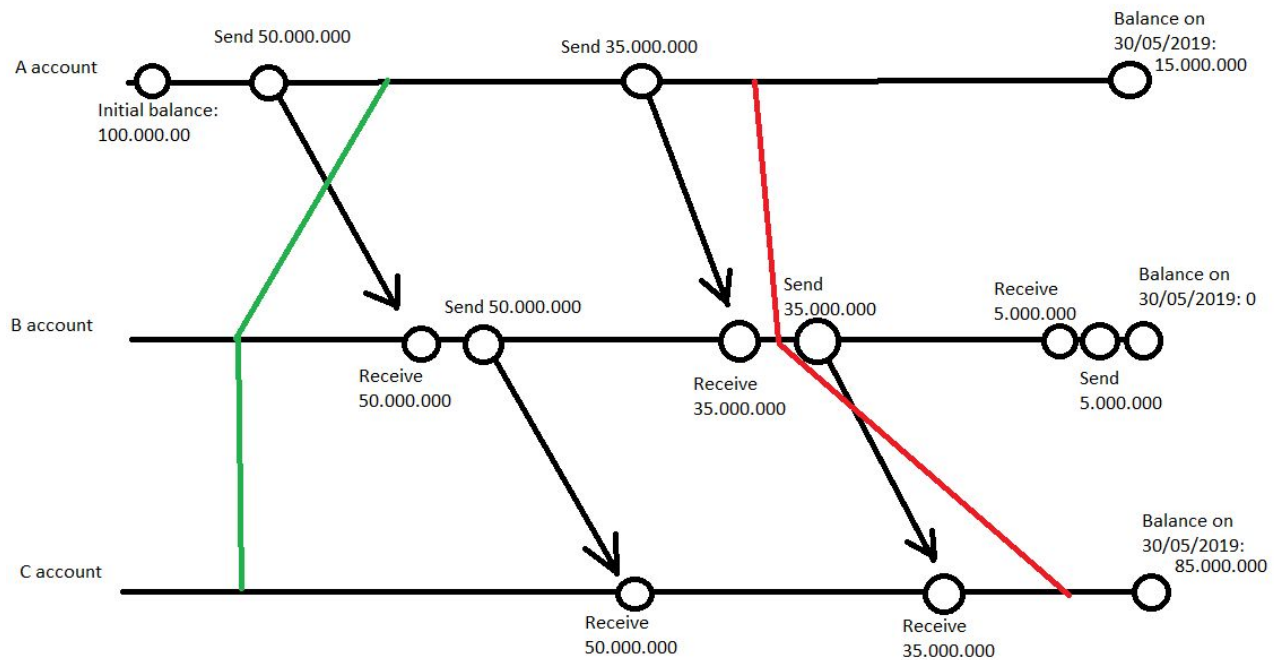
The reason why the Chandy-Lampert protocol would never produce this cut is that the channels of communication are unidirectional and FIFO, the snapshot as sent by P2 to P3 will arrive before the 35k €. As a result it would be included inside of the cut.