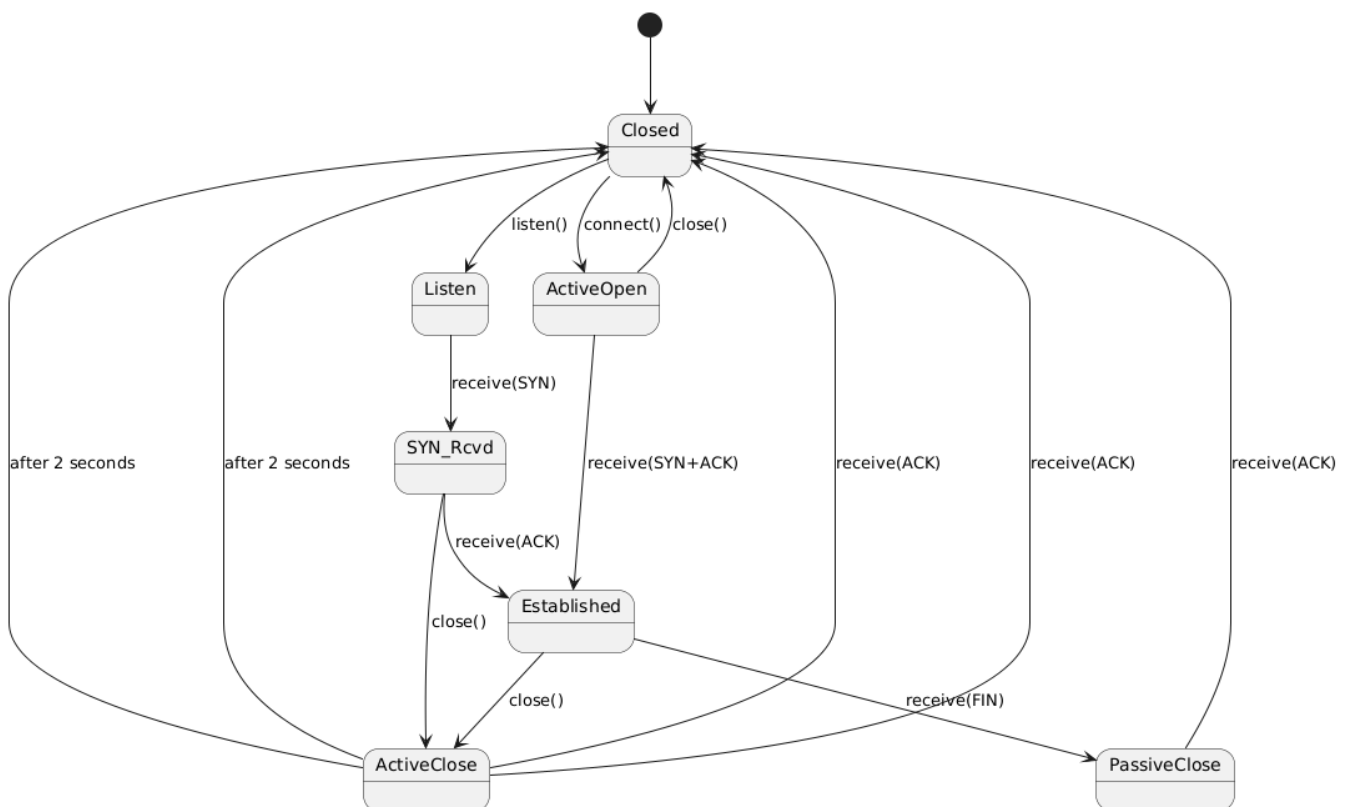
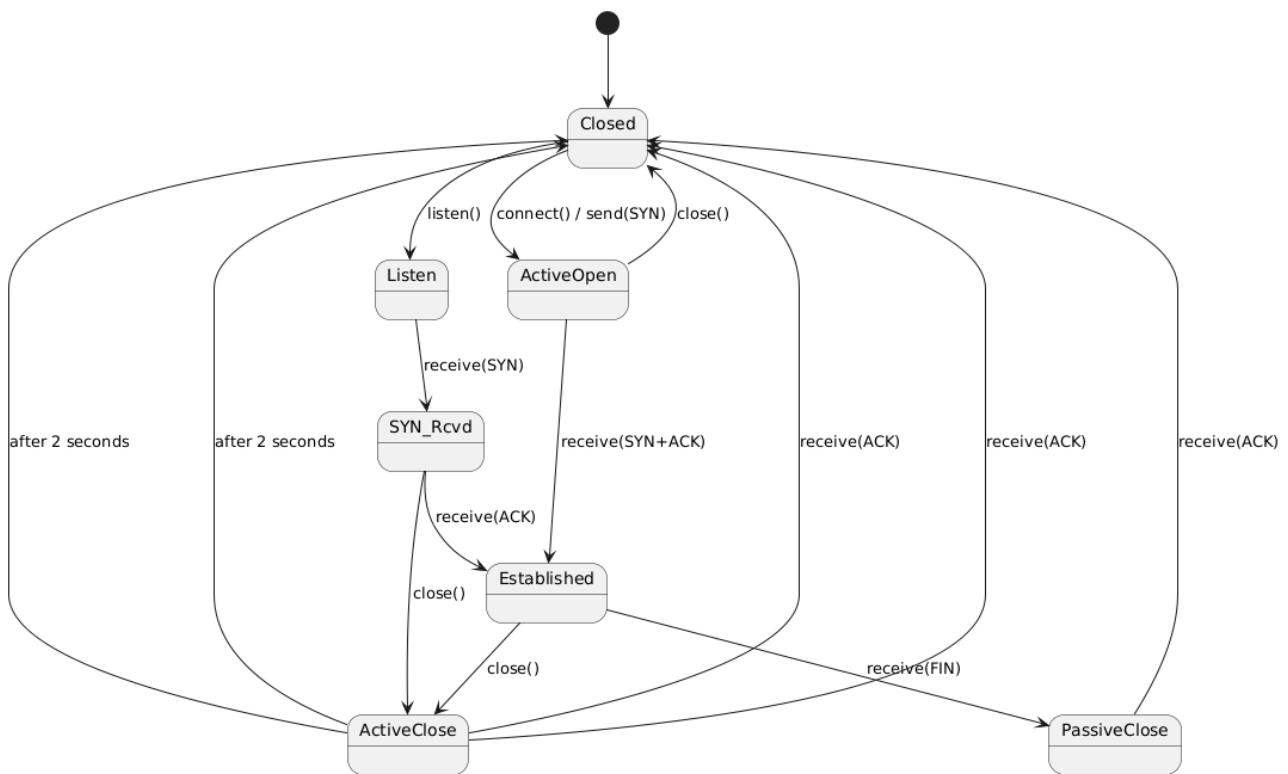


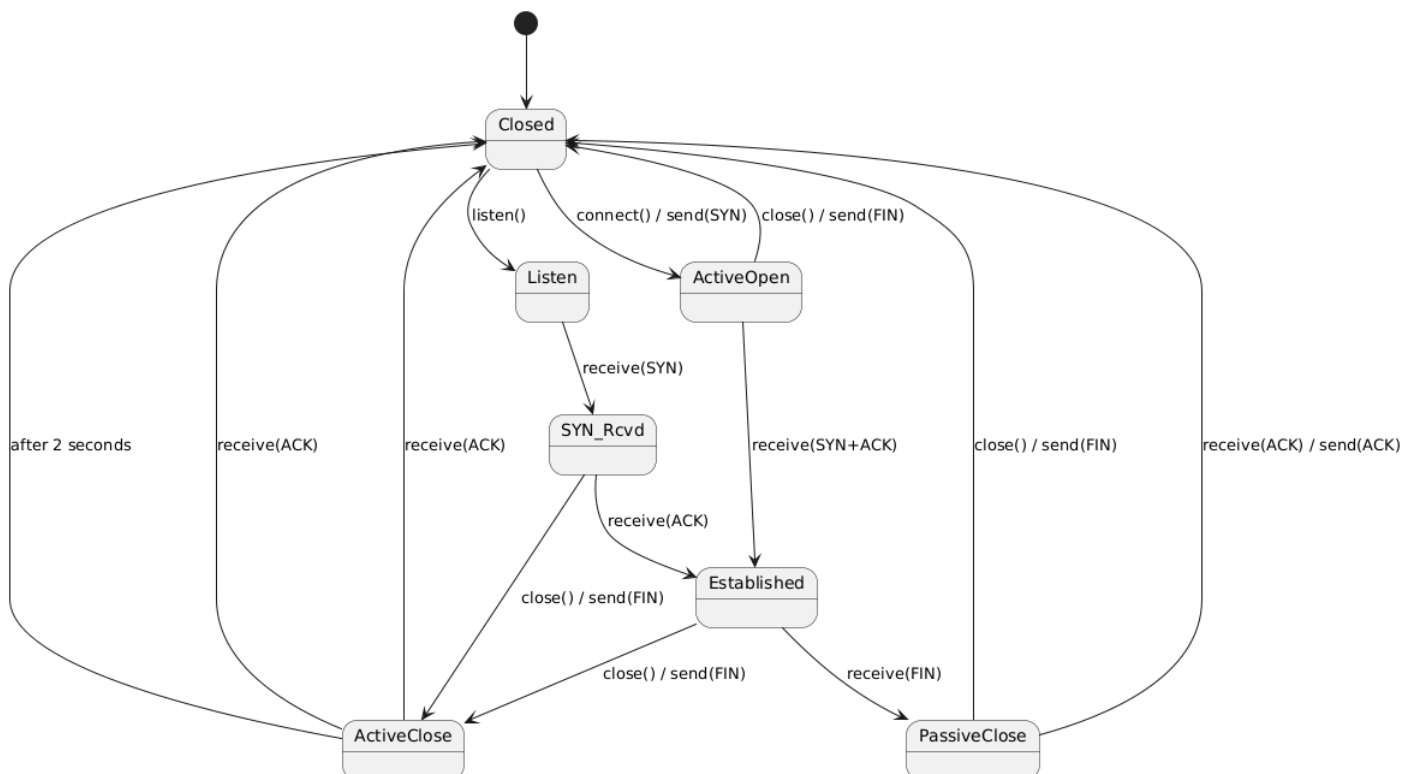
- a. Use a UML2 statechart diagram to show the behavior of the `TCPImpl` class. List all states, transitions and their triggers, kinds of events and transition effects.



- b. Add an ActiveOpen state. Make TCPImpl class go to ActiveOpen state from Closed state on connect operation is called with sending SYN packet. While in the state, if SYN+ACK packet is received, the class goes to Established state.



- c. Clarify in the model using complex transitions. While in PassiveClose, the class waits for a single close call before ACK is received, and sends out FIN packet. The same close call causes the class to transition to ActiveClose from SYN_Rcvd state and to send FIN packet, and to transition to Closed from ActiveOpen state.



- d. Transform the statechart of the TCPImpl class into Moore machine and then into Mealy machine using UML2 notation.

