Name: **code:**

The problem at hand is to develop a simulation model that accurately represents the state of 500 delivery trucks as they go through different stages of their delivery process. The model aims to track the state of each truck over time, considering various factors that influence their state transitions.

To achieve this, the model should consider the following factors:

1. Initial State: Each truck is initially in the Idle state, representing its status when parked at the warehouse and waiting for a delivery order.
2. Loading State: When a delivery order is received, the truck transitions to the Loading state. The loading process takes, on average, 2 hours to complete.
3. GoingToClient State: After finishing loading, the truck transitions to the GoingToClient state. This state represents the truck's journey from the warehouse to the client's location for delivery.
4. ArrivedToClient State: Once the truck arrives at the client's location, it enters the ArrivedToClient state. This state represents the truck's presence at the client's site, ready to unload the delivered items.
5. Unloading State: After arriving at the client's location, the truck transitions to the Unloading state. The unloading process takes, on average, 1 hour to complete.
6. GoingBackState: Once the unloading process is complete, the truck transitions to the GoingBackState. This state represents the truck's journey back to the warehouse after completing the delivery.
7. Idle State: Upon returning to the warehouse, the truck transitions back to the Idle state.
8. Slider Controls: The model should include slider controls for all system parameters, allowing for easy adjustment and exploration of the impact of different parameter values such as loading time, travel time, unloading time, and any other relevant factors.

The output of the model is the state of each truck over time.