**4. State Transition Testing**

State transition testing is a black box testing technique where we test the behavior of a program as it transitions between different states or modes. A state is a condition or set of conditions in which the program can exist, and a transition is a change from one state to another. The idea behind state transition testing is to identify all the possible states and transitions that a program can go through, and then create test cases to verify that the program behaves correctly in each state and makes valid transitions between states.

An example of state transition testing would be for an e-commerce website where customers can add items to their cart, proceed to checkout, enter their payment information and shipping details, and finally place an order. The states in this example would be:

* Browsing products
* Adding items to cart
* Checking out
* Entering payment and shipping details
* Order confirmation

The transitions between these states would be: