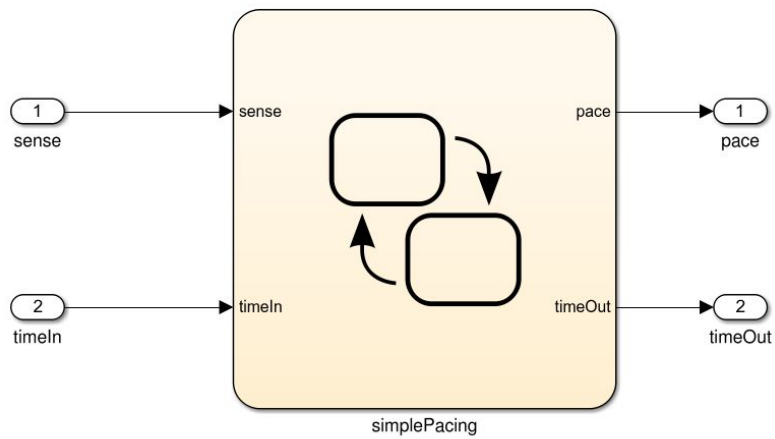


DIT635 - Model-Based Testing Activity

1. Dracula wants to keep his valuables in a safe that's hard to find. So, to reveal the lock to the safe, Dracula must remove a strategic candle from its holder. This will reveal the lock only if the door is closed. Once Dracula can see the lock, he can insert his key to open the safe. For extra safety, the safe can only be opened if he replaces the candle first. If someone attempts to open the safe without replacing the candle, a monster is unleashed.

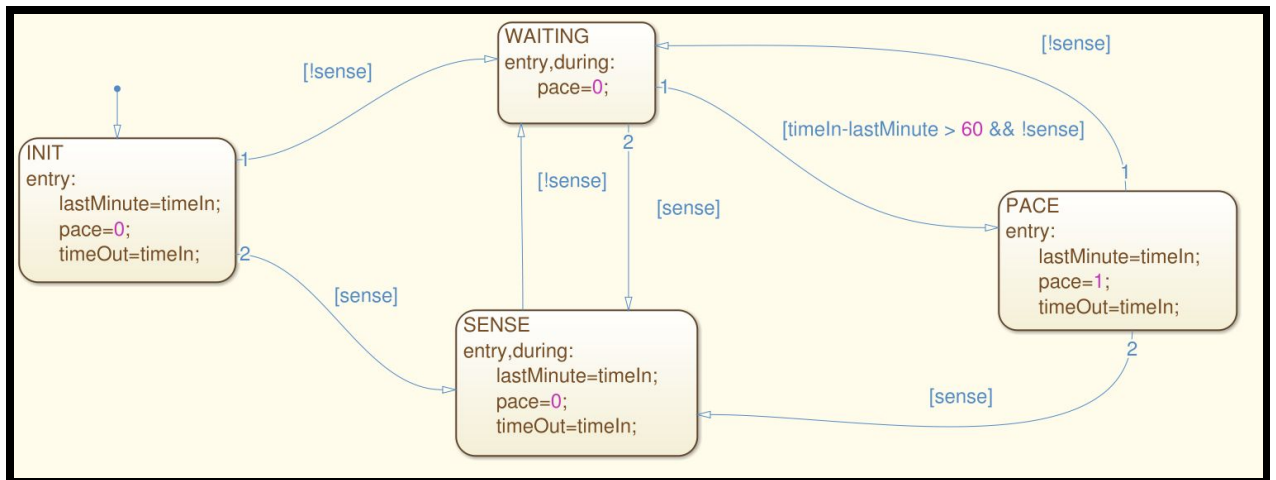
Design a finite state machine for the controller of the secret panel in Dracula's castle.

2. Given the following finite state machine:



Input: sense (boolean), timeIn (integer). **Output:** pace (boolean), timeOut (integer)

Model:



A) Derive a test suite that achieves state coverage.

B) For the same model, derive a test suite that achieves transition coverage.

2. Draw a decision table for the following specification. Be sure to indicate any constraints that you feel should be specified on the combinations of values.

PDiscount is a function that determines the final price of an airplane ticket, based on the following conditions:

If the passenger is an infant (<2 years old), and the flight is domestic, then an 80% discount shall be given. If the passenger is an infant and the flight is international, then a 70% discount shall be given.

If the passenger is a child (2-16 years old) and an early reservation is made, then a 20% discount shall be given. If the passenger is a child, but a normal reservation is made, then a 10% discount shall be given.

If the passenger books an international flight in the off-season, then a 15% discount shall be given.

If an early reservation is made, then a 10% discount shall be given.

If multiple of the above combinations of conditions are met, the largest discount shall be awarded.

3. How many tests would be required for compound condition coverage?

4. Derive test cases to achieve MC/DC coverage over the decision table.