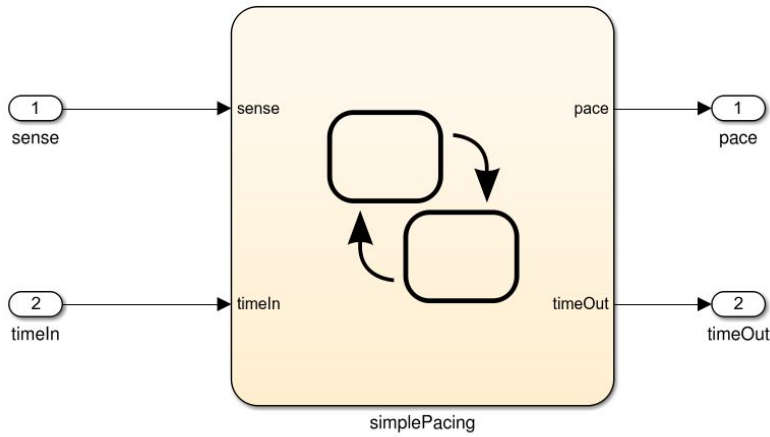


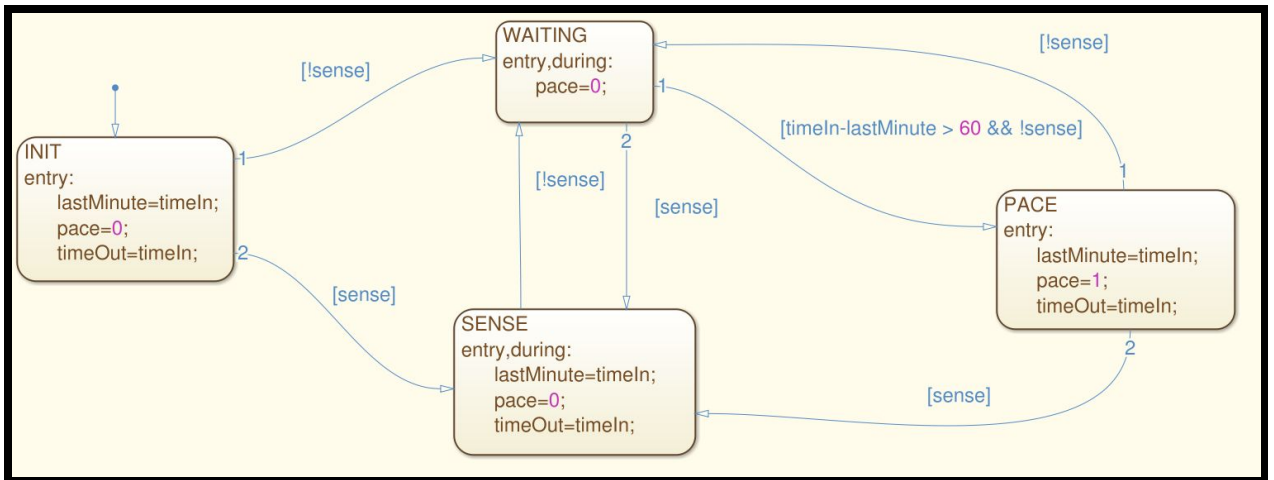
CSCE 747 - Model-Based Testing Activity

Name(s):

1. 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, than an 80% discount shall be given. If the passenger is an infant and the flight is international, than a 70% discount shall be given.

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

5. Given the following grammar, derive a test suite that covers each production in the grammar.

expr : term | term * term | term / term
term : factor | factor + factor | factor - factor
factor : ATOM | LPAREN expr RPAREN

ATOM = 0..9

LPAREN = (

RPAREN =)