

CSCE 747 - Intraclass Testing Activity

Name(s):

You have an informal specification for the class **Model**:

Model represents the current configuration of a particular model of computer. A given model may have zero or more slots, each of which is marked as required or optional. Each slot may contain a single component. To be a legal model, the model ID must exist in the ModelDB, each slot marked as required must be filled, the configuration must match that of the ModelDB entry for the model ID, and the optional components must match those allowed for that model in the ModelDB.

Class **Model** offers the following services:

- **selectModel(modelId)**: Sets the model ID to the value passed in, as long as the model ID is set to “no model selected”. A model ID must be set before any other services are requested.
- **deselectModel()**: Sets the model ID to “no model selected”. If the configuration was previously judged to be legal, it is no longer legal.
- **addComponent(slot, component)**: Adds the selected component to the selected slot. If the configuration was previously judged to be legal, it is no longer legal.
- **removeComponent(slot)**: Removes the selected component to the selected slot. If the configuration was previously judged to be legal, it is no longer legal.
- **isLegalConfiguration()**: Compares the current configuration to the entry in ModelDB. If the configuration is valid, the Model’s isLegal field is set to “true”.

1. **Use this specification to create a finite state machine model representing this class.**

2. Derive test cases to achieve full transition coverage of this state machine.