SED Lecture 20
Conformance Testing

Objectives
To be able to apply Chow’s conformance test method for Mealy finite state machines.

Key Points
1. Conformance testing seeks to determine whether the behaviour of a system under test matches that of its dynamic specification
2. Conformance test methods were first published by Chow in the 1970s for finite state Mealy machines.
3. Chow’s method detects action errors (the system under test produces the wrong output for a given sequence of input events) and transfer errors (the SUT reaches the wrong destination state for a transition taken).
4. Chow’s methods can also be adapted for other types of dynamic specification, and in particular to use cases in object oriented design, or for UML state models. It can also be extended to identify more types of faults such as extra states in the implementation.

Core reading
Bruegge and Dutoit, p459, State-based testing