Homework XI
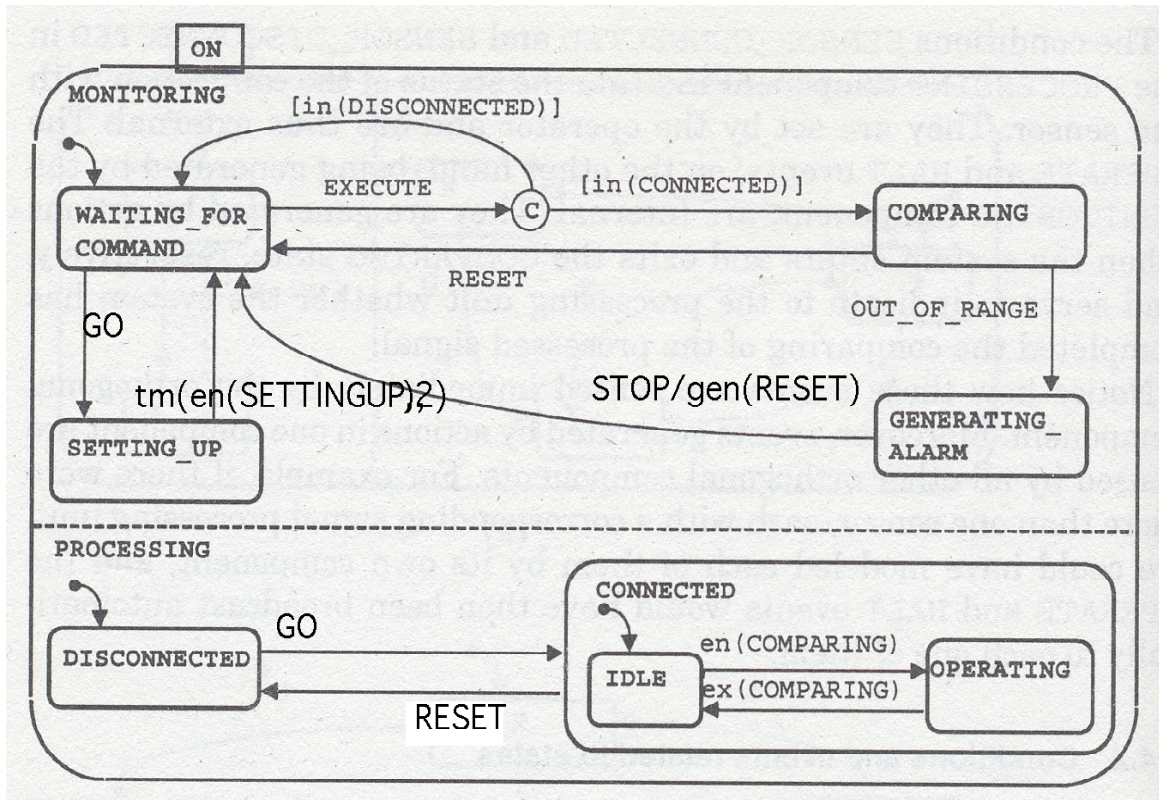
1. [25 points]
For the statechart 'ON' below, indicate *all* the "reachable" configurations that can result from any sequence of transitions, beginning at the initial configuration
<WAITING_FOR_COMMAND, DISCONNECTED>

2. [25 points]
In the statechart 'ON' from problem 1, one configuration is <GENERATING_ALARM, OPERATING>. One possible behavior with this configuration is when the 'STOP' event occurs activating a transition to the configuration <WAITING_FOR_COMMAND, OPERATING> with the action of generating the 'RESET' event. Then the 'RESET' event is sensed at the next step enabling a transition to DISCONNECTED. However, it is also possible for the 'GO' event to simultaneously occur at the next step, and in this circumstance, a transition to the configuration <SETTING_UP, DISCONNECTED> can occur, rather than a transition back to the initial state configuration.

For this problem, revise the 'ON' statechart so that after the 'STOP' event occurs in the 'GENERATING ALARM' state, a transition to the initial configuration is forced (i.e., no other transition is activated) without changing the reachable states.