State Specification Template

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| Student | |  | | | Date | |  |
| Program | |  | | | Program # | |  |
| Instructor | |  | | | Language | |  |
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| **State Name** | | | | **Description** | | | |
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| **Function/Parameter** | | | | **Description** | | | |
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| **States/Next States** | | | | **Transition Condition** | | **Action** | |
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| State Specification Template Instructions | | |
| Purpose | * To hold the state and state transition specifications for a system, class, or program * To support state-machine analysis during design, design reviews, and design inspections |
| General | * This form shows each system, program, or routine state, the attributes of that state, and the transition conditions among the states. * Use this template to document the state specifications during planning, design, test development, implementation, and test. * After implementation and testing, update the template to reflect the actual implemented product. |
| Header | * Enter your name and the date. * Enter the program name and number. * Enter the instructor’s name and the programming language you are using. |
| State Name | * Name all of the program’s states. * Also enter each state name in the header space at the top of each “States/Next States” section of the template. |
| State Name Description | * Describe each state and any parameter values that characterize it. * For example, if a state is described by SetSize=10 and SetPosition=3, list SetSize=10 and SetPosition=3. |
| Function/Parameter | * List the principal functions and parameters. * Include all key variables or methods used to define state transitions or actions. |
| Function/Parameter Description | * For each function, provide its declaration, parameters, and returns. * For each parameter, define its type and significant values. |
| Next State | * For each state, list the names of all possible next states. * Include the state itself. |
| Transition Condition | List the conditions for transition to each next state.   * Use a mathematical or otherwise precise notation. * If the transition is impossible, list "impossible," with a note saying why. |
| Action | List the actions taken with each state transition. |