Poem of the Day Specification

A Poem of the Day (PoD) protocol is intended to server clients a poem of their choice from a PoD server. The server will read the poems from a text file, such as mypoems.txt, and load each poem as strings to be served to clients later. When a client connects to the server via telnet and the server's ServerSocket class, the server is to then send an instruction message to the client that they should input an integer between 1-4, inclusive, for a specific poem. The specified poem will then be sent to the client, and then the server will close the connection to the client and listen for other incoming connections. If any other input aside from 1-4 inclusive is given by the client, an error message will be sent the client, with instructions on proper input of 1-4 inclusive and to reconnect to the server, then the server will close the connection.

As a finite state machine we start in the initial state q0, where the PODServer program as started. A transition to state S1, waiting for new connections from clients, which will occur after initialization, reading and loading the poems from the specified into strings. When a client requests a connection to be established we move from state S1, to S2 after the connection has been established. The server will then send the client a message requesting that the client input a number between 1-4, inclusive, for a specific poem and then transition to state S3 which waits for the client input. Inputs of 1, 2, 3, 4, or any other input, will transition to the state S4, S5, S6, S7, or S8, respectively. These states will then send a message of poem 1, poem 2, poem 3, poem 4, or an error message, respectively, as it transitions to state S9. Additionally, if at either state of S2 or S3, a connection timeout occurs for any reason, the state will transition to state S9. State S9 will end the connection between the server and client as it transitions back to state S1. The following page contains the finite state machine diagram.

Q0	Server start
S1	Waiting for connections
S2	Connection Made
S3	Waiting for client input
S4	Poem 1
S5	Poem 2
S6	Poem 3
S7	Poem 4
S8	Connection Close