Random Testing Function Development:

Explanation - Looking at the function testMe(), the error conditions are laid out pretty clearly. When certain characters (**[, (, {, , a, x, },),]**) are encountered in a particular order, the state changes and has a cascading effect until all conditions are met. This then produces an error message. In order to produce the error as quickly as possible, it makes sense to limit the random generation to only select from the characters that change the state. The goal of forcing the error to print can be achieved by creating an array consisting only of the characters that change the state variable. Coupled with a limitation on the string generation to only select from the letters in the word "reset" (also need to add a null terminator at the end for proper recognition). Because of the "randomness", the test may need to run several times until it fulfills all of state changes required to produce the error message but it will eventually happen (and it will happen much more quickly than if the domain of legal characters was expanded).

In Practice – First run of testme.c ran 515 times until it finally met the error conditions.