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CS 362 -- Section 400
Random Testing Quiz

The goal of this random tester was to implement two functions, inputChar() and inputString(), which would together eventually break the testme() function by leading it through its path to the error message. For this to happen, the char returned by inputChar() needed to follow a specific sequence of letters and symbols through each iteration of the while loop, in order to reach state 9. Once the state was 9, inputString() needed to return the string “reset\0” to produce the error.

First off, I made inputChar simply return a random alphanumeric character or symbol, by choosing from 32-126 on the ASCII table, which corresponds to ‘ ‘ through ‘~’ characters. Through repeated iterations of the while loop, this will always eventually get the state from 0 to 9.

Next was to make a random string that could possibly be “reset”. It would have been possible to achieve this by just building the string character by character in the same manner as I selected the character for inputChar(), but to make it take less iterations, I used another random number generator from 0-4 to make it so that ¼ of the time, the string would be made of totally random characters, while ¾ of the time, it would be composed randomly of the characters ‘r’, ‘e’, ‘s’, and ‘t’. This greatly increases the chances of a random string being “reset”, and thereby decreases the number of iterations needed to reach the error message.