1. DFA for Binary Strings Containing "101"

**Description:**  
This implementation creates a Deterministic Finite Automaton (DFA) that accepts all binary strings containing the substring "101". The DFA has 4 states:

* State 0: Initial state, no relevant history
* State 1: Last character was '1'
* State 2: Last characters were '10'
* State 3: Accepting state, '101' has been seen

**Testing Approach:**  
The unit tests verify both positive cases (strings containing "101") and negative cases (strings without "101"). Edge cases like empty string and strings where "101" appears at the beginning, middle, or end are tested.

2. Turing Machine for Binary Numbers Divisible by 3

**Description:**  
This Turing Machine recognizes binary numbers divisible by 3. It uses three states to represent the current value modulo 3:

* q0: remainder 0 (accept if input ends here)
* q1: remainder 1
* q2: remainder 2

The transitions update the remainder based on the next bit (equivalent to multiplying current remainder by 2 and adding the new bit).

**Testing Approach:**  
The tests verify both numbers that are divisible by 3 (0, 3, 6, 9 in decimal) and those that aren't (1, 2, 5, 7). The tests cover single-digit inputs and longer binary strings.