**Question 1: Frog Simulation**

| Total Scored out of 9 |  |
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**Part (a) simulate 5 points**

Intent: Simulate the distance traveled by a hopping frog

+1 Calls hopDistance and uses returned distance to adjust (or represent) the frog’s position

+1 Initializes and accumulates the frog’s position at most maxHops times (must be in context of a loop)

+1 Determines if a distance representing multiple hops is at least goalDistance

+1 Determines if a distance representing multiple hops is less than starting position

+1 Returns true if goal ever reached, false if goal never reached or position ever less than starting position

**Part (b) runSimulations 4 points**

Intent: Determine the proportion of successful frog hopping simulations

+1 Calls simulate the specified number of times (no bounds errors)

+1 Initializes and accumulates a count of true results

+1 Calculates proportion of successful simulations using double arithmetic

+1 Returns calculated value