Benchmark #2: Detailed Game Description and Proposed Probability Analysis

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**Benchmark Description**

The game we will be programming in StarLogo Nova is inspired by The *Three Little Pigs* fairy tale.  In this adventure, a player, who is playing 'the wolf', is shown three houses, which are all randomized colors and labeled from 1-3.  The player will have two chances to choose which house the little piggy is hiding under. To pick houses the player can type 1, 2, or 3.  If we have enough time we will create a separate game with the same premises except that it's rigged; no matter which house the player picks the piggy will never be there.

**Probability Analysis**

1.) We are programming StarLogo Nova to randomize everything, so really, no single strategy can be set in stone.

2.) The probability of winning is ⅓ because there are three options to choose from.

3.) The probability of losing is ⅔ because the piggy is only in one house.

4.)  Since there are two doors and the probability is a ½ chance that means a 50% chance of winning if the player switches.

5.) Since there are two doors and the probability is a ½ chance that means a 50% chance of winning if the player stays.