Problem 5 (due Monday, April 8)

An investor in a casino is offered a choice of getting a return each time a certain game is played. The game is played by tossing \$N\$ times a fair coin and recording the sequence of heads (H) and tails (T). Let \$h\$ be the number of appearances of HH in the recorded sequence and let \$t\$ be the number of appearances of HT. For example, when \$N=5\$ and THHHT is recorded then \$h=2\$ and \$t=1\$. The investor can choose to either get \$h\$ cents each time the game is played, or to get \$t\$ cents each time the game is played. Which choice offers a better expected return?

No solutions were submitted. The expected returns for each choice are actually the same and equal to \$(N-1)/4\$. For a detailed solution see the following link Solution.

From:

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