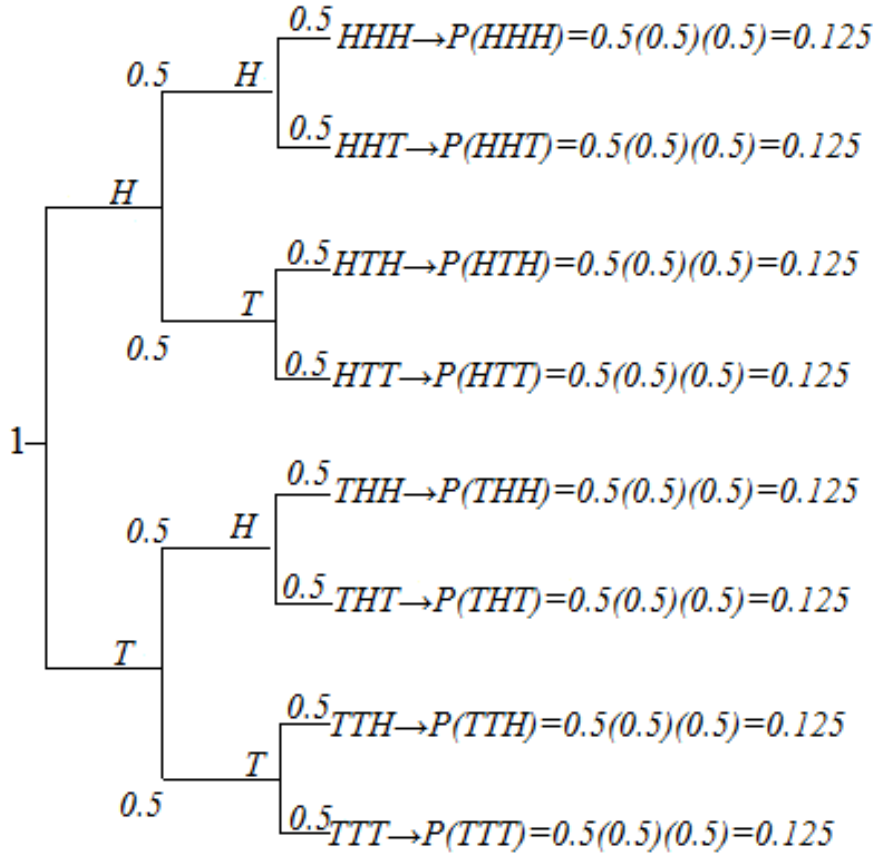
Answer on Question #81528, Math / Statistics and Probability

1. A fair coin is flipped 3 times in a row.

a) Use a tree diagram to find all the possible outcomes.



b) Write the sample space (the set of all possible outcomes. Use H for heads and T for tales).

$$\{HHH, HHT, HTH, HTT, THH, THT, TTH, TTT\}$$

c) Find the probably of the coin coming up tales exactly twice.

$$P(H = 1, T = 2) = P(HTT) + P(THT) + P(TTH) =$$
$$= 0.5(0.5)(0.5) + 0.5(0.5)(0.5) + 0.5(0.5)(0.5) = 0.375$$

d) Find the probably of the coin coming up tales at least twice

$$P(T \geq 2) = P(HTT) + P(THT) + P(TTH) + P(TTT0 =$$
$$= 0.5(0.5)(0.5) + 0.5(0.5)(0.5) + 0.5(0.5)(0.5) + 0.5(0.5)(0.5) = 0.5$$