



1) What is the theoretical probability of winning **both** the 2<sup>nd</sup> and 3<sup>rd</sup> games with a Scissors-Paper sequence...

If the first game is lost?

If the first game is won?

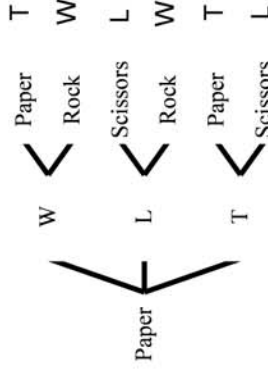
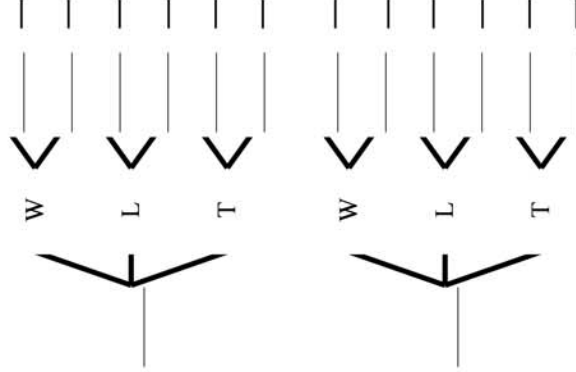
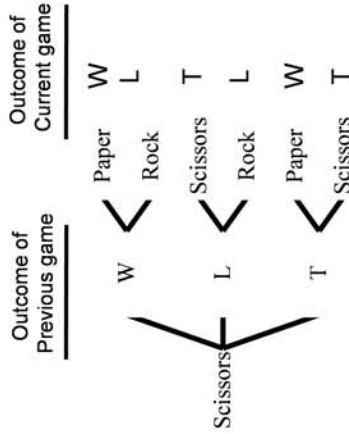
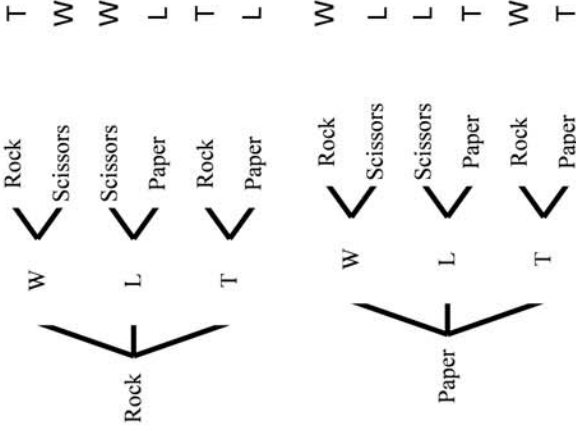
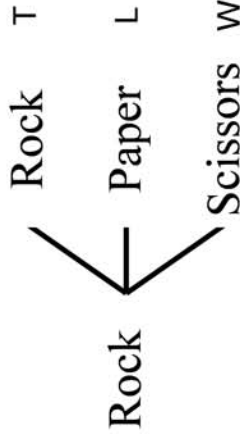
If the first game is tied?

2) What is the theoretical probability for a player to **not lose** two consecutive games using a Rock-Paper-Rock sequence...

If the first game is lost?

If the first game is won?

Player 1      Player 2      Player 1 Outcome



3) Is there a pattern in the number of possible outcomes with each game played?

Game	# Outcomes
1	
2	
3	

4) Can you write a formula that relates the number of games,  $N$ , with the number of outcomes,  $O$ , **after the first game?**

1) What is the theoretical probability of winning **both** the 2<sup>nd</sup> and 3<sup>rd</sup> games with a Scissors-Paper sequence...

If the first game is lost? **0**

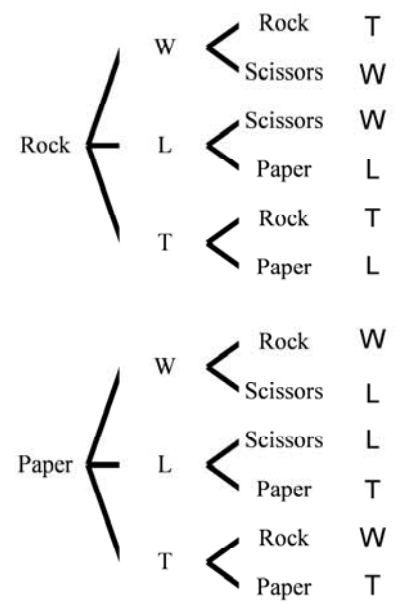
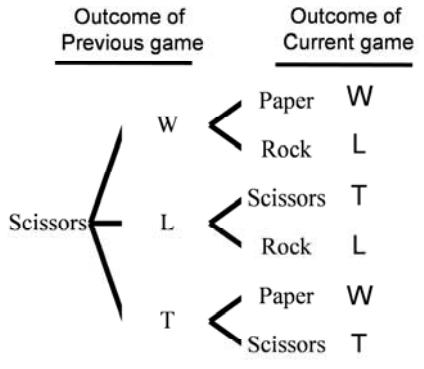
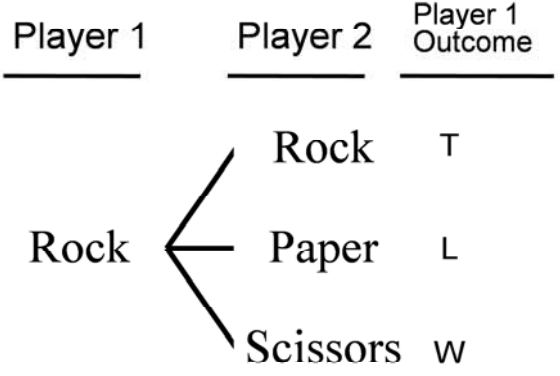
If the first game is won?  $(1/2)(1/2)=(1/4)$

If the first game is tied?  $(1/2)(1/2)=(1/4)$

2) What is the theoretical probability for a player to **not lose** two consecutive games using a Rock-Paper-Rock sequence...

If the first game is lost?  $(1/2)(1/2)=(1/4)$

If the first game is won?  $(1)(3/4)=(3/4)$



3) Is there a pattern in the number of possible outcomes with each game played?

Game	# Outcomes
1	3
2	12
3	24

4) Can you write a formula that relates the number of games,  $N$ , with the number of outcomes,  $O$ , **after the first game?**

$O=3*2^N$

