Exercise 3

1. For questions 1 and 2, consider our previous problem (permutations of 3 students in a line).

When represented as a tree, each node will have how many children?



1. Given two permutations, what is the maximum number of swaps it will take to reach one from the other?



1. For questions 3 and 4, consider the general case of our previous problem (permutations of *n* students in a line). Give your answer in terms of *n*.

When represented as a tree, each node will have how many children?



1. Given two permutations, what is the maximum number of swaps it will take to reach one from the other?



Reminder: You do not lose points for trying a problem multiple times, nor do you lose points if you hit "Show Answer". If this problem has you stumped after you've tried it a few times, feel free to reveal the solution.