

1. A Knight can make up to eight moves as shown in the figure. Starting at an arbitrary position (Given as an input) in the $n \times n$ board, A knight's tour is a sequence of $n^2 - 1$ moves such that every square of the board is visited once. Write a backtracking algorithm that either produces a knight's tour or determines that no such tour exists.

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2. A draft report has five chapters. The table shows the lengths of the chapters & their importance where the scale is from 1(low) to 10(high). The report must be at most 600 pages long. The problem is to edit the report so that the overall importance is maximized. Implement the fractional knapsack (Not 0-1) Algorithm using Greedy Programming.

Chapter	Pages	importance
1	120	5
2	150	5
3	200	4
4	150	8
5	140	3

3. Solve Matrix Chain Product Using Dynamic Programming. Write an algorithm with explanation of each step. Make the dynamic programming table for the example 1st Matrix 30X35 2nd Matrix 35X15 3rd Matrix 15X5 4th Matrix 5X10 5th Matrix 10X20 6th Matrix 20 X25.