# Homework 5

1. Coin-Row Problem

C = [ 5, 1, 2, 10, 6 ]

1. Change-Making Problem (find all solutions)

N=9, C = [ 1, 3, 5 ]

9 -> n = 1 [ 8, 6, 4 ] -> n = 2 [ [ 7, 5, 3], [ 5, 3, 1 ], [ 3, 1, x ] ] ->

n = 3 [ [ [ 6, 4, 2 ], 0, 0 ], [ 0, 0, 0 ], [ 0, 0, x ] ->

n = 4 [ 5, 3, 1 ] , [ 3, 1, x ], [ 1, x, x ]

n = 5 [ 0, 0, 0 ], [ 0, 0, x ], [ 0, x, x ]

13 possible solutions

(note: wasn’t sure if you want the different list of coins or just the tree way I did from the algo but if you follow the tree you could get which coins go in what solutions.)

1. Coin-Collecting Problem
   1. In words, how is different from book?
   2. Adjust pseudo code to follow new rule
   3. Use to solve example and fill out two grids
2. Knapsack (bottom-up DP)
3. Optimal Binary Search Trees
4. Warshall’s algo
5. Floyd’s algo
6. Edit Distance Problem
   1. Cange letter
   2. Insert letter
   3. Delete letter
7. Develop word distance
   1. Pseudo code
   2. Best/Worst cases
   3. Build or explain in detail