Greedy Approach - Lab 6

1. Activity Selection problem

Activity	1	2	3	4	5	6
Start	1	3	0	5	8	5
Finish	2	4	6	7	9	9

Answer - activities 1,2,4,5

2. Huffman coding

Symbol	A	B	C	D	E	F
Frequency	45	13	12	16	5	9
Answer (codes)	0	101	100	111	1101	1100
	1	010	011	000	0010	0011

3. Fractional Knapsack

Item	1	2	3	4	5	6	7
Value	5	10	15	7	8	9	4
Weight	1	3	5	4	1	3	2

Answer: 51

4. Minimum number of coins
Given denominations V = {1, 2, 5, 10, 20, 50, 100, 200, 500, 2000}, find the minimum number if coins/notes required to equal the sum mentioned.
Test input - 2651
Output - 5

5. Station stopping problem
Given N stations between places A and B, find the number of ways that a train can stop at S of the stations such that no two stopping stations are consecutive.
Test input - (N, S) = (12, 7), (12, 4)
Output - not possible in first case; no. of ways in second case

6. Minimum number of fibonacci terms
Find the minimum number of fibonacci terms required to add up to a required number K. The terms maybe repeated.
Test input - 17, 25
Output - 3 (13+3+1), 3 (21+2+2)