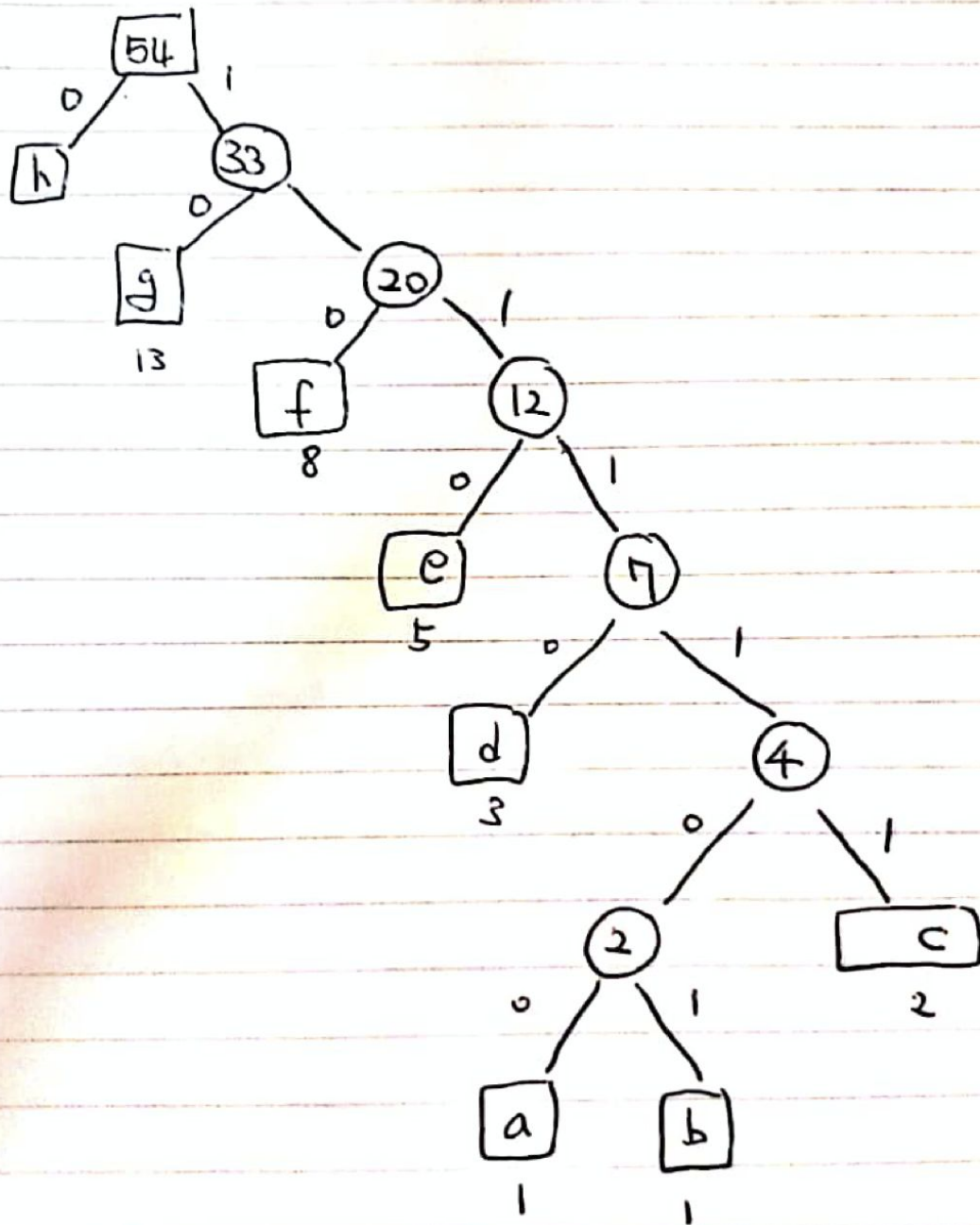


Problem 1: (5 points) Huffman Codes:

HW3 problem 1



h : 0

g : 10

f : 110

e : 1110

d : 11110

c : 111111

a : 1111100

b : 1111101

## Problem2

### Analysis

- i) Looping through the hotels that you already stayed last night
- ii) Using greedy steps for staying at the selected hotel. The new hotel name will be 'h' which is more than 'd' distance away from the last stayed hotel.
- iii) Looping step 1 and 2 until you reached the last hotel 'x\_n'

### Running the algorithm

The worst case scenario is that each hotel has a multiples of 'd' distance.

In this case, calculate the distance between each hotel in two times in the whole computation

Then, the total running time in worst case will be

$O(2n) = O(n)$  which is linear time.

## Problem3

# See attached files

