Indian Institute of Technology Jodhpur
CS121 Data Structures and Algorithms

Assignment 1

Deadline 1st September

1. You have two ropes and a box of matches. Each rope takes exactly one hour to burn, but they may not necessarily burn evenly – i.e., the first half might burn in the first 10 minutes and the second in the remaining 50). How can you measure out 45 minutes by just using these two ropes?

2. Two robots start at different places on the same linear track. They can only move forward. What one program can you give to both robots to guarantee that they meet? The program may consist only of the instructions move n (where n is the number of spaces to move).

3. Given an unsorted array, find a pair of elements with given sum. Example: Input: A[5,9,2,1,13,0] and the sum 7 Output: position 0 and position 2.