

Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam - 603 110
(An Autonomous Institution, Affiliated to Anna University, Chennai)

UCS2403: DESIGN & ANALYSIS OF ALGORITHMS

Assignment 6

1. Implement the backtracking algorithm for solving the Subset Sum problem.
2. Given as input an expression that contains open and close parentheses and optionally some characters, write a backtracking algorithm to remove the minimum number of parentheses to make the input string valid. Implement the algorithm using Python.
Sample input = `((()))((()))(`
Number of parentheses removed = 2
Output = `((()))((()))`
3. Given as input a graph $G = (V, E)$ and a number k , write a backtracking algorithm to colour the set V using at most k colours. If such a colouring is not possible, print "No solution exists.". Implement the algorithm using Python.