

Discrete mathematics - Chapter Trees practical work

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ATTENTIONS

- Practical work duration: *13:30 - 16:00*.
- Using your own laptop to complete the code, then writing down your solution to paper with your full name, student ID and your signature. Submit your paper work to teacher before getting out of the class.

Computer Projects: write programs with these inputs and outputs.

1 PROBLEM 1

Given the adjacency matrix of an undirected simple graph, determine whether the graph is a tree.

2 PROBLEM 2

Given a list of items, construct a binary search tree containing these items.

3 PROBLEM 3

Given an arithmetic expression in postfix form, find its value.

4 PROBLEM 4

Given the adjacency matrix of a connected undirected simple graph, find a spanning tree for this graph using depth-first search.

5 PROBLEM 5

Given a set of positive integers and a positive integer N , use backtracking to find a subset of these integers that have N as their sum.