資料結構 課程大綱

Arrays & Structures

• Matrix ADT (transposition, multiplication)

• Polynomial ADT

• Strings

Stacks & Queues

• Stacks: Push and Pop

• Queues: AddQ and DelQ

• Traversing a Maze

•Infix expression to Postfix expression conversion

• Postfix expression evaluation

Linked Lists

• LL representation of Polynomials

• LL representation of Equivalence Relations

• Inverting a chain of LL

• Circular LL

• Doubly LL

Trees

• Definition of Trees and Binary Trees (BT)

• BT, complete BT, Full BT

• Inorder, preorder and postorder traversals of BT

• Array representation of BT

• Binary Search Trees (BST)

• Selection (Winner/Loser) Trees

Graphs

• Graph representations (Adjacency Matrix, Adjacency List)

• Basic graph traversals: DFS, BFS

• Spanning Trees, MST (Kruskal, Prim, Sollin)

• Shortest Paths (Dijkstra, Bellman-Ford, Floyd-Warshall)

及格標準：60分

平時成績(40%) 程式作業(30%) 統一期末考 (30%)