**Algorithm Design**

**Document Id 44**

Concepts

* Greedy Programming
* Dynamic Programming
* Substructure
* Optimal Solution
* Global and Local Solution

**Greedy Programming**

Learning Objectives

* Greedy Choice
* Greedy Concepts

Guided Learning Tasks

Greedy Programming Concepts

Implement a Greedy Solution

Lab 1 Overlapping Segment Application

Lab 1 Solution

**Dynamic Programming**

Learning Objectives

* dynamic optimization
* optimal solution

Guided Learning Tasks

Dynamic Programming Concepts

Implement a Dynamic Solution

Lab 2 Optimise Stock Trades

Lab 2 Solution

**Divide-and-Conquer Algorithms**

Learning Objectives

* multi-branched [recursion](https://en.wikipedia.org/wiki/Recursion)

Guided Learning Tasks

Divide-and-Conquer Concepts

Implement a Divide-and-Conquer Solution

Lab 3 Count the Unique Inversions

Lab 3 Solution