

Section 10 - Computational Thinking

Abstraction

Thinking Ahead

Thinking Procedurally

Thinking Logically & Concurrently

Backtracking

Backtracking is when different sequences of actions are tried to obtain a solution. If one path doesn't work, you "backtrack" to the last known working point.

An example of this is depth-first traversal of a graph/tree, where you go down one branch fully before returning to the last node to check for any unchecked branches that may be coming out of it.

Data Mining

Data mining involves the processing of large data sets to find patterns and relationships. This enables one to produce insights on these large data sets.

An example of this is in social media algorithms, which personalise your feed based on your interests to keep you on the platform for longer.

Heuristics

A heuristic approach describes a "good enough" approach to a problem that does not necessarily produce a perfect solution, but minimises program (time and/or space) complexity.

An example is the A* algorithm vs Dijkstra's algorithm for pathfinding.

Performance Modelling

Pipelining

Visualisation

Parallel Processing

Concurrent Processing

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