Problem Solving Strategies
Backtracking
- Uses algorithms, often recursively.
- Builds a solution methodically.
- Based on paths which have been visited and found to be correct.
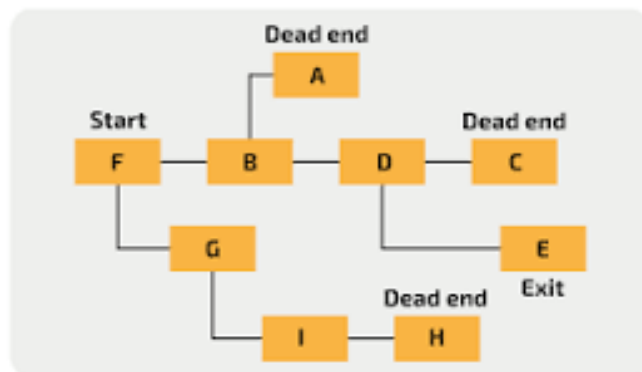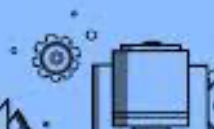- The algorithm backtracks to the previous stage if an invalid path is found.

Best described as an "**Organised Brute Force**"

Data Mining
- Identifies patterns or outliers in large data sets, often collected from multiple sources.
- These data sets are known as big data.
- It spots correlations between data and other trends which might not be easy to see.
- Can be used to make predictions about the future.
- A useful tool to assist in business and marketing.

Heuristics
- A non optimal or rule of thumb approach.
- Used to find an approximate solution to a problem.
- Used where the standard solution takes too long.
- Does not produce a 100% accurate or complete solution.
- Provides an estimate for intractable problems.

Performance Modelling
- Mathematical method to test loads on systems.
- A cheaper and less time consuming method of testing applications.
- Used for safety critical systems where a trial run can't be carried out.

Pipelining
- Modules are divided into individual tasks.
- Tasks are developed in parallel.
- Allows faster completion.
- The output of one process is often the input of another.
- Often used in RISC processors, which perform different parts of the Fetch-Decode-Execute cycle at the same time.
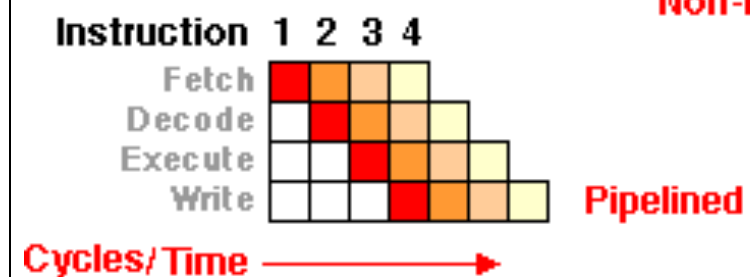
Visualisation
- Presenting data using charts or graphs.
- Makes it easier for humans to understand.
- Allows trends or patterns to be more easily identified.