**Here's a list of optimization algorithms commonly used in the context of Data Structures and Algorithms (DSA):**

**Optimization problem:** In Data Structures and Algorithms (DSA), an optimization problem refers to a problem where the goal is to find the best solution from a set of feasible solutions. These problems can be categorized as either minimization problems (finding the minimum value) or maximization problems (finding the maximum value).

**1.** **Dynamic Programming (DP)**: A technique used to solve problems by breaking them down into simpler subproblems, solving each subproblem only once, and storing the solutions to subproblems in a table to avoid redundant calculations. Common variants include:

* Memoization
* Tabulation

**2.** **Greedy Algorithms**: Make a sequence of choices, each choice made locally without regard to the global solution, aiming to find the optimal solution at each stage. Examples include:

* Kruskal's Algorithm (for Minimum Spanning Trees)
* Prim’s Algorithm (for Minimum Spanning Trees)
* Dijkstra's Algorithm (for Shortest Path)
* Huffman Coding (for Data Compression)

**3.** **Divide and Conquer**: Divide the problem into smaller subproblems, conquer each subproblem recursively, and combine the solutions of the subproblems to form the solution to the original problem. Examples include:

* Merge Sort
* Quick Sort
* Binary Search

**4.** **Branch and Bound**: A method for solving combinatorial optimization problems by systematically exploring the space of potential solutions. Examples include:

* Traveling Salesman Problem
* Knapsack Problem

**5.** **Backtracking**: A systematic way of searching for solutions to problems by incrementally building candidates and abandoning a candidate as soon as it determines that the candidate cannot be completed to a valid solution. Examples include:

* N-Queens Problem
* Sudoku Solver

**6.** **Linear Programming:** Mathematical optimization technique for a system of linear constraints and a linear objective function, where both the constraints and the objective function are represented as linear equations or inequalities. Common algorithms include:

* Simplex Method
* Interior Point Method

**7.** **Simulated Annealing:** A probabilistic technique used for finding an approximate solution to an optimization problem. It is inspired by the annealing process in metallurgy and works by randomly selecting a neighbour solution and deciding whether to move to that solution based on an acceptance probability that decreases over time.

**8.** **Genetic Algorithms:** Optimization algorithms inspired by the process of natural selection. They maintain a population of candidate solutions and iteratively improve them through selection, crossover, and mutation operations to produce better solutions.