

# Greedy Algorithms Tutorial - GeeksforGeeks

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Courses Tutorials Practice Jobs DSA Tutorial Interview Questions Quizzes Must Do Advanced DSA System Design Aptitude Puzzles Interview Corner DSA Python Technical Scripter 2026 Explore DSA Fundamentals Logic Building Problems Analysis of Algorithms Data Structures Array Data Structure String in Data Structure Hashing in Data Structure Linked List Data Structure Stack Data Structure Queue Data Structure Tree Data Structure Graph Data Structure Trie Data Structure Algorithms Searching Algorithms Sorting Algorithms Introduction to Recursion Greedy Algorithms Tutorial Graph Algorithms Dynamic Programming or DP Bitwise Algorithms Advanced Segment Tree Binary Indexed Tree or Fenwick Tree Square Root (Sqrt) Decomposition Algorithm Binary Lifting Geometry Interview Preparation Interview Corner GfG160 Practice Problem GeeksforGeeks Practice - Leading Online Coding Platform Problem of The Day - Develop the Habit of Coding DSA Course 90% Refund Greedy Algorithms Tutorial Last Updated : 22 Jan, 2026 Greedy algorithms are a class of algorithms that make locally optimal choices at each step with the hope of finding a global optimum solution. At every step of the algorithm, we make a choice that looks the best at the moment. To make the choice, we sometimes sort the array so that we can always get the next optimal choice quickly. We sometimes also use a priority queue to get the next optimal item. After making a choice, we check for constraints (if there are any) and keep picking until we find the solution. Greedy algorithms do not always give the best solution. For example, in coin change and 0/1 knapsack problems, we get the best solution using Dynamic Programming. Examples of popular algorithms where Greedy gives the best solution are Fractional Knapsack , Dijkstra's algorithm , Kruskal's algorithm , Huffman coding and Prim's Algorithm Basics Introduction General Structure Easy Problems Fractional Knapsack Min Cost to Make Array Size 1 Min Rotations for Circular Lock Max Composite Numbers to Make n Smallest Subset Greater Sum Assign Cookies Buy Maximum Stocks Max Consecutive Diff Sum Min and Max Costs to buy all Min Notes with Given Sum Max Equal Sum of Three Stacks Medium Problems Activity Selection Jump Game Job Sequencing Egyptian Fraction Merge Overlapping Intervals Min Fibonacci Terms with Sum K Minimum Platforms Min Cost to Connect n ropes Max trains Partition 1 to n into two min diff groups Paper cut into min squares Min diff groups of size two Max Satisfied Customers Min initial vertices to traverse matrix with constraints Largest palindromic number by permuting digits Smallest with n digits and digits sum Lexicographically largest subsequence Hard Problems Minimize the Max Height Diff Making max equal with k updates Minimize cash flow among friends Min Cost to cut a board into squares Min cost to process m tasks where switching costs Min time to finish all jobs with given constraints Minimize the maximum difference between the heights of towers Minimum edges to reverse to make path from a source to a destination Largest Cube formed by Deleting minimum Digits from a number Rearrange characters in a string such that no two adjacent are same Rearrange a string so that all same characters become d distance away Standard Greedy Algorithms Activity Selection Problem Job Sequencing Problem Huffman Coding Huffman Decoding Water Connection Problem Minimum Swaps for Bracket Balancing Egyptian Fraction Policemen catch thieves Fitting Shelves Problem Assign Mice to Holes Greedy Problems on Array Minimum product subset of an array Maximize array sum after K negations using Sorting Minimum sum of product of two arrays Minimum sum of absolute difference of pairs of two arrays Minimum increment/decrement to make array non-Increasing Sorting array with reverse around middle Sum of Areas of Rectangles possible for an array Largest lexicographic array with at-most K consecutive swaps Partition into two subarrays of lengths k and (N – k) such that the difference of sums is maximum Greedy Problems in Operating System First Fit algorithm in Memory Management Best Fit algorithm in Memory Management Worst Fit algorithm in Memory Management Shortest Job First Scheduling Job Scheduling with two jobs allowed at a time Program for Optimal Page Replacement Algorithm Greedy Problems on Graph Kruskal's Minimum Spanning Tree Prim's Minimum Spanning Tree Boruvka's Minimum Spanning Tree Dijkstra's Shortest Path Algorithm Dial's Algorithm Minimum cost to connect all cities Max Flow Problem Introduction Number of single cycle components in an undirected graph Approximate Greedy Algorithm for NP Complete Set Cover Bin Packing Graph Coloring K-centers Shortest Superstring Travelling Salesman Problem using MST Greedy for Special cases of DP Fractional Knapsack Problem Minimum coins required Quick Links Greedy Algorithms Interview Questions Practice Problems on Greedy Algorithms Quiz on Greedy

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