

Homework lecture 7

Algorithm

This is the classic & famous knapsack problem: You are a thief carrying a single knapsack with limited capacity W . The museum you stole had N artifact that you could steal, where each item has some weight and their profit. Unfortunately, you might not be able to steal all the artifacts because of your limited knapsack capacity.

You have to cherry pick the artifact to maximize the total value of the artifacts you stole.

Exercise 1: Develop a program to solve the above problem using the greedy algorithm.

Exercise 2: Develop a program to solve the above problem using dynamic planning algorithm.