

SET 2

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1. Write a program that can be completed in $O(n^2 \log n)$ times and also stores the result in the array by trying the different inputs.
- 2.

Consider a set of items $S = \{1, 2, \dots, n\}$ where item i has weight w_i and profit v_i . [20]

The maximum capacity of the knapsack is C . Find the subset $S' \subset S$ that maximises the profit

$$\sum_{i \in S'} v_i$$

such that $\sum_{i \in S'} w_i \leq C$. You can choose the fraction them if needed.

Write a program to solve the given problem and apply your solution to the following data.

Item	Weight (in kg)	Profit (in Rs)
A	10	20000
B	20	30000
C	30	66000
D	40	40000
E	50	60000