IT Lab M.Tech CS (Algo)
Assignment - 4

Write a program to solve the 0/1 knapsack problem using the dynamic programming strategy. Given W as capacity of knapsack and n items with their profits p_i and respective weights w_i for $i = 1, 2, \ldots, n$, to find subset of items such that

$$\sum_{i=1}^{n} x_i p_i \text{ is maximized }, x_i = 0 \text{ or } 1$$

subject to the constraint that

$$\sum_{i=1}^{n} x_i w_i \leq W$$

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Write the program with command line arguments, the first argument is name of the input file and the second one of the output file. The formats for these are specified in the google classroom page.

Submission procedure: Create a directory rollnumber_lab4 containing all the necessary files and tar the same and submit at the google classroom page.