CS 340 Project 8:
Search Trees for Knapsack

Description: In this project you are to implement a branch-and-bound search tree solution to the Knapsack problem.

Specifications: This project consists of implementing the branch-and-bound search tree solution to the Knapsack problem based on the upper bound function given in slide 17 of the Search Tree slides:

Upper bound = current items + (remaining capacity * best payoff among remaining items)

Clearly indicate in the comments where you are performing the following:

i) Backtracking
ii) Pruning
iii) Best-first visitations, and
iv) Calculation of the Upper Bound.

For example, searching the term “Backtracking” in your code should easily point the grader to the appropriate location.

I/O specifications are identical to Project 7.

What to Turn in: You must turn in a single zipped file named **project7b.zip** containing your plots, source code, a Makefile if needed, and a README file indicating how to execute your program (especially if not written in C++ or Java). You must respect **proglag.pdf** rules.

This assignment is due by MIDNIGHT on Thursday, December 7.

LATE SUBMISSIONS ARE NOT ACCEPTED FOR THIS LAST PROJECT.