In this lab you will experiment with two algorithm design techniques applied to the solution of two very similar problems.

- Implement a backtracking algorithm that solves the optimization 0-1 knapsack problem. Instead of deciding whether we can take items worth a predefined amount of money, as described in class, in this version of the problem you need to find the highest-value load that can fit in the knapsack.

- Implement a greedy algorithm that solves the optimization continuous knapsack problem. This problem is identical the previous one, except that in this case we can take fractions of items. For example, if we take $\frac{3}{4}$ of an item that has value 2 and weight 3, the value of the fraction would be $\frac{3}{2}$ and its weight would be $\frac{9}{4}$.

Compare the running times of the algorithms for various parameter values and, as usual, write a report describing your results. Given the little time available, a demo will not be required, thus it is very important that your report accurately reflects your work.