

# Knapsack Experiments Group 2 Summary

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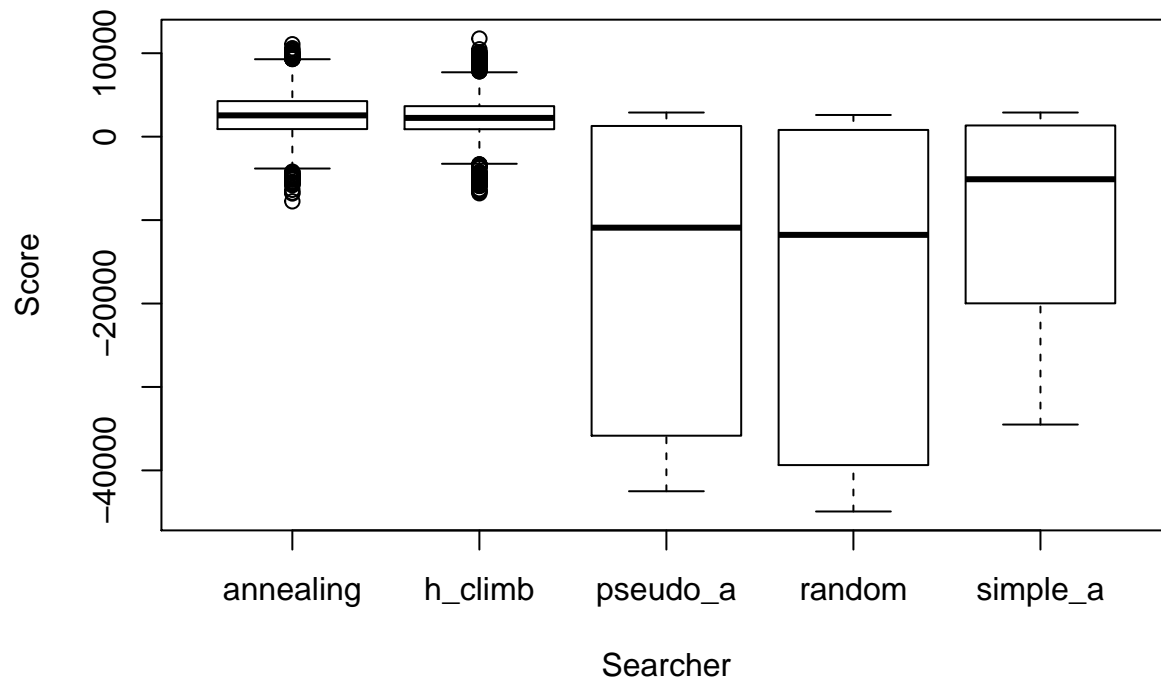
## Search Methods:

For our experiment, we compared the results of five different search methods. The first two were the **hill climber** and **random search** we started with. Our three new search implementations were variations on simulated annealing. We call them **pseudo-annealing**, **simple-annealing**, and **annealing**.

Our data represents 100 runs of each search method, on each problem, with 1000 iterations.

## Results

The Hill climber and annealing methods seem to be far superior to the other 3 methods. Simple annealing is somewhere in the middle, and pseudo annealing seems to be only little better (if at all) than random search.



```
##
## Pairwise comparisons using Wilcoxon rank sum test
##
## data: data_1000$Score and data_1000$Search_method
##
##           annealing hill_climber pseudo_annealing random_search
## hill_climber    0.041         -                -                -
## pseudo_annealing < 2e-16 < 2e-16                -                -
## random_search   < 2e-16 < 2e-16             1.9e-11                -
## simple_annealing < 2e-16 < 2e-16             8.0e-13             < 2e-16
##
## P value adjustment method: holm
```