Combinatorial Optimization Solver

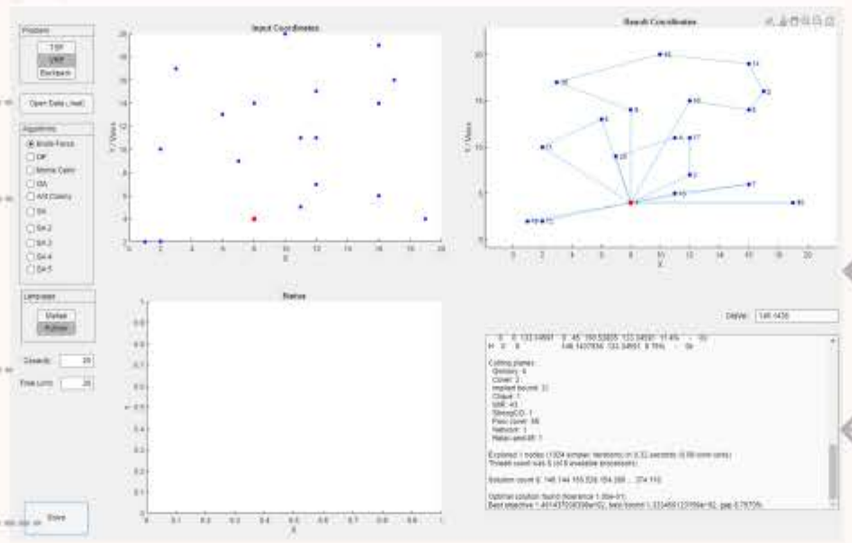
System & Subsystem Diagram v1.0

图例：

调用

数据流动

GUI



Classes

- optimize()
- optimize(Problem)

- set_Problem(Problem)
- set_all(problem, n, capacity, cx, cy, timeLimit)
- set_problem(problem)
- set_n(n)
- set_capacity(capacity)
- set_demand(demand)/set_weight(weight)
- set_cx(cx)
- set_cy(cy)
- (debatable) set_timeLim(timeLim)

- get_xi() (int)
- get_xj() (int)
- get_objVal()
- get_status()

Section 1

Data File (.mat)

- n (int)
- capacity/c/cap/cpct (int/double)
- demand/dmd/d/weight (1×n array/matrix)
- cx/cX/coord_x (1×n array/matrix)
- cy/cY/coord_y (1×n array/matrix)

Data Field

- Problem (struct)
- problem (string)
- n (int)
- capacity/c/cap/cpct (int/double)
- demand/dmd/d/weight (1×n array/matrix)
- cx/cX/coord_x (1×n array/matrix)
- cy/cY/coord_y (1×n array/matrix)
- distance/dis (n×n array/matrix)
- xi (int)
- xj (int)
- objVal (double)
- (debatable) timeLim/timeLimit/time_limit (int):

Output

Output File

Algorithms

- Brute Force
- Monte Carlo
- Greedy Algorithm
- DP
- GA
- SA
- KNN
- 2-opt
- VNS
- ACO