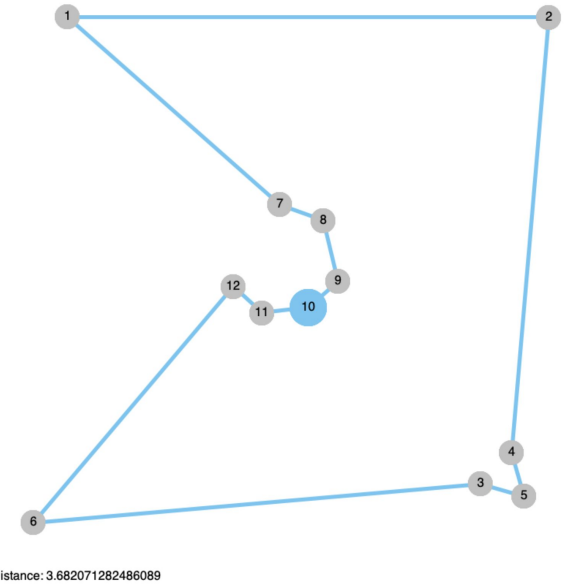
COMP 160
Object-oriented Programming
Lab 4

Migros Delivery

- Find the quickest delivery route for a Migros delivery car.
  - Migros -> blue circles
  - Houses -> gray circles.

- Format: Each circle corresponds to a house's coordinates. "Migros" denotes the Migros location.

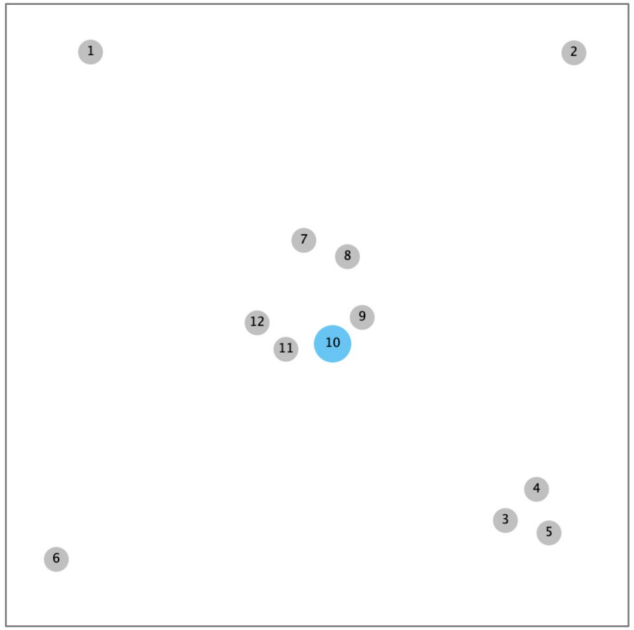
- Car starts and ends trip at Migros and each house is visited once.



Distance: 3.682071282486089

Migros Delivery

- Input Data:
  - Coordinates of houses and Migros are provided in an input text file.
- Program Output:
  - Determine shortest route for delivery.
  - Visualize with StdDraw



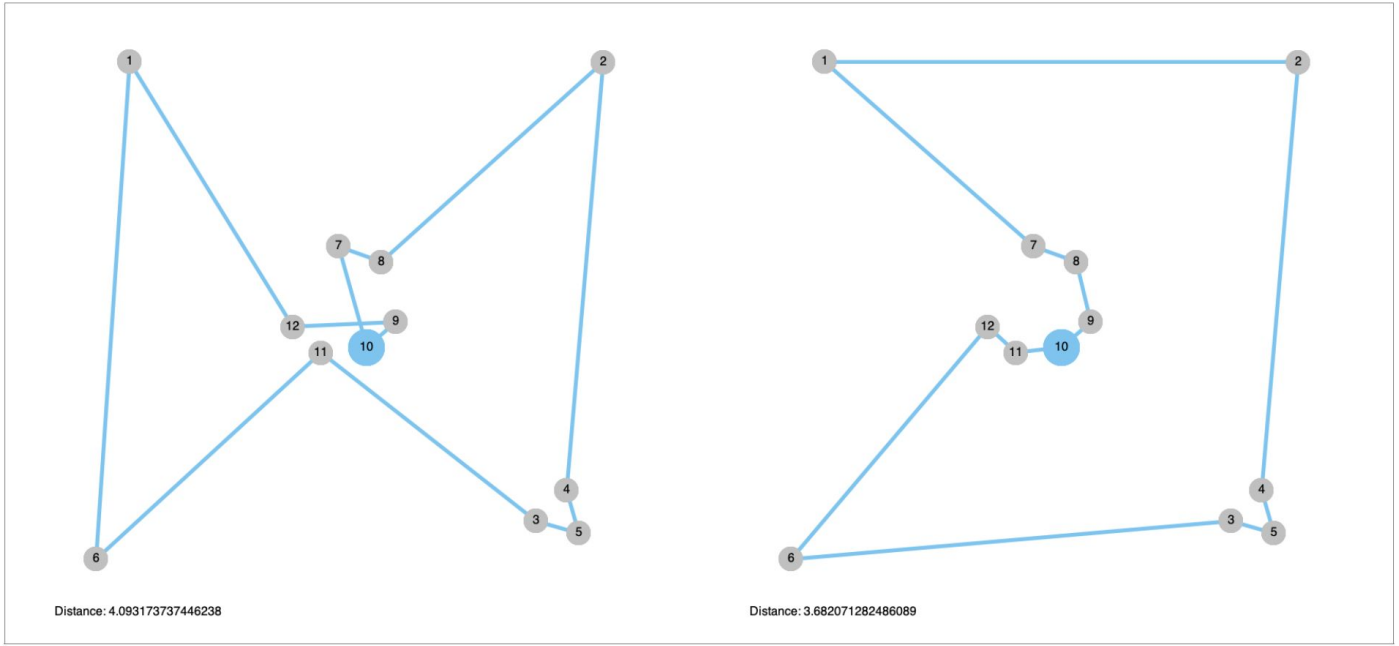
(a)

Format of an input data file:

```
0.1363,0.9225
0.9125,0.9213
0.8025,0.1700
0.8525,0.2200
0.8725,0.1500
0.0813,0.1075
0.4788,0.6200
0.5488,0.5938
0.5725,0.4962
0.5250,0.4538,Migros
0.4500,0.4450
0.4038,0.4875
```

(b)

Figure 1. (a) Migros (blue circle) and houses (gray circles) and (b) sample format of the input file.



(a) A long route

(b) The shortest route

Figure 2. Two possible routes for the Migros delivery car. The route given in (a) is not the shortest, whereas the solution given in (b) is the shortest path with a total distance of 3.68207.

Sample output

```
Shortest Route: [10, 9, 8, 7, 1, 2, 4, 5, 3, 6, 12, 11, 10]
Distance: 3.682071282486089
```