

Exercise 7

1. Implement simulated annealing for the travelling salesman. As proposal, permute two random stations on the route. As cooling scheme, you can use e.g. $T_k = 1/\sqrt{1+k}$. or $T_k = -\log(k+1)$, feel free to experiment with different choices. The route must end where it started. Initialise with a random permutation of stations.

(a) Have input be positions in the plane of the n stations.

Let the cost of going $i \mapsto j$ be the Euclidian distance between station i and j .

Plot the resulting route in the plane.

Debug with stations on a circle.

(b) Then modify your programme to work with costs directly and apply it to the cost matrix from the course homepage.