

In the name of God

Department of Physics
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NUMERICAL ANALYSIS COURSE

Exercise Set 1

(Due Date: 1403/07/17)

1. General view of Optimization: For the traveling salesman problem, find the optimum route according to the definition in the second page of this exercise.
2. Shell script experiences: write proper shell scripts to do following tasks:
 - A : Loops.
 - B : Write a proper shell script to print the content of each file inside each directory in order. Then write the sentences with order same as for directory to a file named "sentence.txt".
 - C : Making directory and file.
 - D : Run a simple program.
 - E : Reading from file (dataE.txt) and writing in another file.

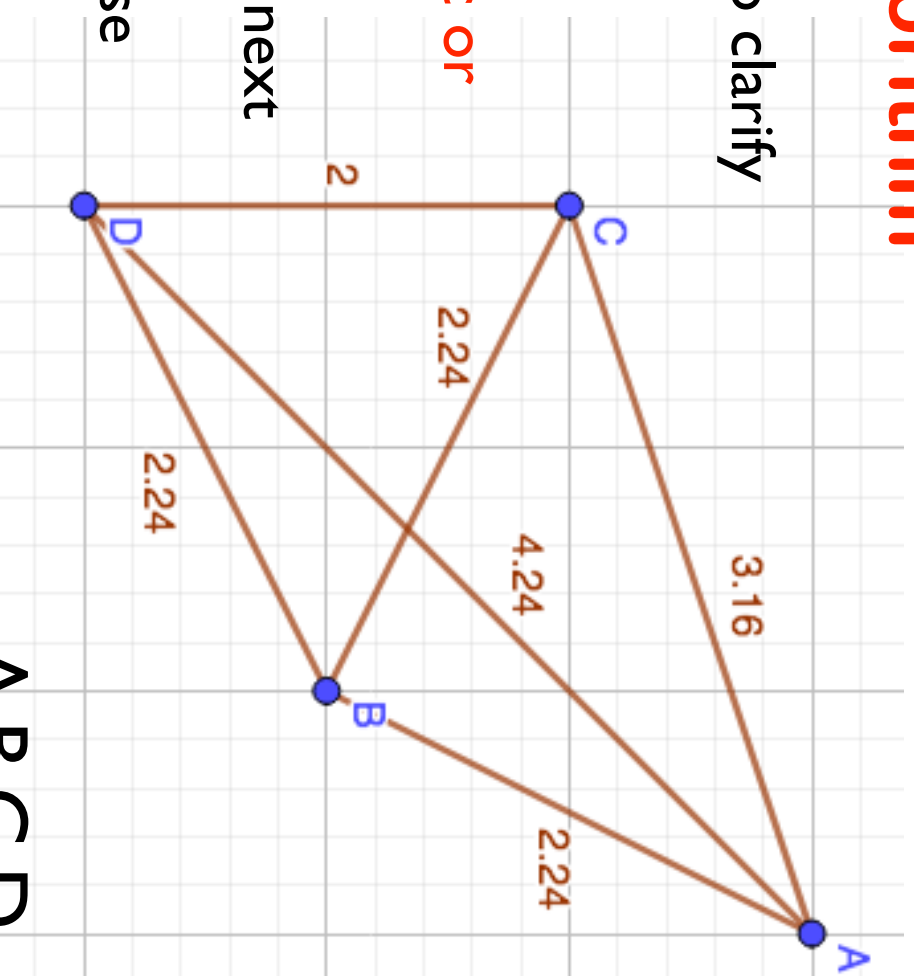
Good luck, Movahed

TSP Algorithm

- 1) Set the labels of each city to zero to clarify the times of visit
- 2) Starting from an arbitrary city
- 3) Traveling to another unvisited city

This can be done either in deterministic or stochastic approaches

- 1) For each given starting point select next unvisited destination randomly
- 2) Check the conditions of our purpose



Exercise: Try to solve TSP according to following conditions:

- Visit twice C-City
- Visit necessarily C before D

A,B,C,D

A,B,D,C

C,D,B,A

D,C,B,A