Indiana University Southeast

# Assignment 6

# Traveling Salesman Problem Revisited

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In this assignment, we are given the same task as our lab assignment 4. In that we are to solve the infamous traveling salesman problem. In this problem, there are a given number of cities. Traveling from one city to another costs a varying amount of money. We are interested in finding out in what order we should travel through the cities to minimize overall costs. However, in lab 4 we used recursion to solve the problem whereas now we are using a Stack.

Outputs:

run:
The 12 cities are visited as follows
0 5 3 8 4 1 11 6 7 10 9 2 Total Cost: 715

The 13 cities are visited as follows
0 5 3 8 4 1 11 6 7 10 9 2 12 Total Cost: 804

The 14 cities are visited as follows
0 5 3 8 4 1 13 11 6 7 10 9 2 12 Total Cost: 900

The 15 cities are visited as follows
0 5 3 8 4 1 13 14 12 2 9 10 7 6 11 Total Cost: 840

The 16 cities are visited as follows
0 5 11 8 4 1 9 3 14 13 10 15 12 7 6 2 Total Cost: 1418

The 19 cities are visited as follows
0 5 11 8 4 1 9 3 14 18 15 12 7 6 10 13 17 16 2 Total Cost: 1455

The 29 cities are visited as follows
0 27 5 11 8 4 20 1 19 9 3 14 18 24 6 22 26 23 7 15 12 17 13 21 16 10 28 25 2 Total Cost: 1800

BUILD SUCCESSFUL (total time: 1 second)