Exercise 9

from itertools import permutations

def tsp(graph, start):

n = len(graph)

cities = list(range(n))

min\_cost = float('inf')

for perm in permutations(cities):

if perm[0] == start:

cost = sum(graph[perm[i]][perm[i+1]] for i in range(n-1))

cost += graph[perm[-1]][perm[0]] # return to start

min\_cost = min(min\_cost, cost)

return min\_cost

# Example usage

graph = [

[0, 10, 15, 20],

[10, 0, 35, 25],

[15, 35, 0, 30],

[20, 25, 30, 0]

]

print("Minimum Cost:", tsp(graph, 0))

