EXPERIMENT – 09 Travelling Salesman Problem (brute force, small n)

AIM:

Solve TSP by brute force for small number of cities

CODE:

# tsp\_bruteforce.py

import itertools

def tsp(dist):

cities=list(range(len(dist)))

best=1e9; best\_path=None

for perm in itertools.permutations(cities[1:]):

path=[0]+list(perm)+[0]

cost=sum(dist[path[i]][path[i+1]] for i in range(len(path)-1))

if cost<best: best=cost; best\_path=path

return best,best\_path

if \_\_name\_\_=='\_\_main\_\_':

d=[[0,10,15,20],[10,0,35,25],[15,35,0,30],[20,25,30,0]]

print(tsp(d))

OUTPUT:

