Program 9
Travelling Salesperson Problem

AIM :
To Create a python program to find a solution travelling salesperson problem.

PROGRAM :

```
from sys import maxsize
from itertools import permutations
V = 4

def travellingSalesmanProblem(graph, s):

	vertex = []
	for i in range(V):
		if i != s:
			vertex.append(i)

	min_path = maxsize
	next_permutation=permutations(vertex)
	for i in next_permutation:

		current_pathweight = 0

		k = s
		for j in i:
			current_pathweight += graph[k][j]
			k = j
		current_pathweight += graph[k][s]

		min_path = min(min_path, current_pathweight)

	return min_path

if __name__ == "__main__":

	graph = [[0, 10, 15, 20], [10, 0, 35, 25],
			[15, 35, 0, 30], [20, 25, 30, 0]]
	s = 0
	print(travellingSalesmanProblem(graph, s))
```

OUTPUT:

RESULT:

The Program has successfully been executed.