Experiment 9: Travelling-Salesman Problem

Aim:

Implement an Algorithm in Python for solving Travelling-Salesman Problem

Python 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:

80

Result:

Code has been Implemented successfully.