

Write the python to implement Travelling Salesman Problem

AIM:

To write a python program to implement travelling salesman 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:

```
>>> = RESTART: C:\Users\Welcome\Downloads\tsp.py
The minimum cost of the path is :
80
>>> |
```

RESULT:

The program was executed successfully and result was obtained.