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Course Code - 539

Question- Optimizing delivery routes for a logistic delivery.

```
#include<bits/stdc++.h>
#define INF INT_MAX
using namespace std;

void printSolution(const vector<vector<int>> &dist)
{
    int V = dist.size();
    for (int i = 0; i < V; i++)
    {
        for (int j = 0; j < V; j++)
        {
            if (dist[i][j] == INF)
                cout << "INF"<< "\t";
            else
                cout << dist[i][j] << "\t";
        }
        cout << endl;
    }
}

void floydWarshall(vector<vector<int>> &graph)
{
    int V = graph.size();
    vector<vector<int>> dist = graph;
    for (int k = 0; k < V; k++)
    {
        for (int i = 0; i < V; i++)
        {
            for (int j = 0; j < V; j++)
            {
                if (dist[i][k] != INF && dist[k][j] != INF && dist[i][k] +
                    dist[k][j] < dist[i][j])
                    dist[i][j] = dist[i][k] + dist[k][j];
            }
        }
    }
    printSolution(dist);
}

int main()
{
    vector<vector<int>> graph =
        {{0,6,INF,10},{4,0,INF,8},{INF,2,0,INF},{INF,INF,4,0}};
    floydWarshall(graph);
    return 0;
}
```

Output -

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  SEARCH ERROR
PS C:\Users\npnik\Desktop\CPP> cd "c:\Users\npnik\Desktop\CPP\CA\" ; if ($?) { g++ ca-2.cpp -o ca-2 } ; if ($?) { .\ca-2 }
0      6      14      10
4      0      12      8
6      2      0      10
10     6      4      0
PS C:\Users\npnik\Desktop\CPP\CA>
```