```cpp
#include <iostream>
using namespace std;

#define MAX 10
#define INF 99999  // A value representing infinity (unreachable)

void warshall(int adj[MAX][MAX], int n) {
    int path[MAX][MAX];

    // Initialize the path matrix with the adjacency matrix values
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < n; j++) {
            path[i][j] = adj[i][j];
        }
    }

    // Applying Warshall's Algorithm
    for (int k = 0; k < n; k++) {
        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if (path[i][k] != INF && path[k][j] != INF) {
                    path[i][j] = min(path[i][j], path[i][k] + path[k][j]);
                }
            }
        }
    }

    // Displaying the Path Matrix
    cout << "The Path Matrix is:\n";
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < n; j++) {
            if (path[i][j] == INF) {
                cout << "INF ";
            } else {
                cout << path[i][j] << " ";
            }
        }
        cout << endl;
    }
}

int main() {
    int n;
    int adj[MAX][MAX];

    cout << "Enter the number of nodes: ";
    cin >> n;

    cout << "Enter the adjacency matrix (use " << INF << " for no connection):\n";
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < n; j++) {
            cin >> adj[i][j];
        }
    }

    warshall(adj, n);

    return 0;
}
```