

```

#include <algorithm>
#include <cstdio>
using namespace std;

#define INF 1000000000

int main() {
    int V, E, u, v, w, AdjMatrix[200][200];

    /*
    // Graph in Figure 4.30
    5 9
    0 1 2
    0 2 1
    0 4 3
    1 3 4
    2 1 1
    2 4 1
    3 0 1
    3 2 3
    3 4 5
    */

    freopen("in_07.txt", "r", stdin);

    scanf("%d %d", &V, &E);
    for (int i = 0; i < V; i++) {
        for (int j = 0; j < V; j++) {
            AdjMatrix[i][j] = INF;
            AdjMatrix[i][i] = 0;
        }
    }

    for (int i = 0; i < E; i++) {
        scanf("%d %d %d", &u, &v, &w);
        AdjMatrix[u][v] = w; // directed graph
    }

    for (int k = 0; k < V; k++) // common error: remember that loop order is k->i->j
        for (int i = 0; i < V; i++)
            for (int j = 0; j < V; j++)
                AdjMatrix[i][j] = min(AdjMatrix[i][j], AdjMatrix[i][k] + AdjMatrix[k][j]);

    for (int i = 0; i < V; i++)
        for (int j = 0; j < V; j++)
            printf("APSP(%d, %d) = %d\n", i, j, AdjMatrix[i][j]);

    return 0;
}

```