201533661 이승수

**<input>**

1st line: number of vertex

Else: fromVertex toVertex weight

**<code>**

#include <stdio.h>

#define INF 1000

distance[100][100] = {0};

int vertexNum;

FILE \*inF, \*outF;

void main()

{

inF = fopen("input.txt","r");

fscanf(inF, "%d", &vertexNum);

for (int i = 0; i < vertexNum; i++)//initialize

{

for (int j = 0; j < vertexNum; j++)

{

distance[i][j] = INF;

}

}

while (feof(inF) == 0)

{

int from, to, Distance;

fscanf(inF,"%d %d %d",&from,&to,&Distance);

distance[from - 1][to - 1] = Distance;

}

fclose(inF);

for (int k = 0; k < vertexNum; k++)

{

for (int i = 0; i < vertexNum; i++)

{

for (int j = 0; j < vertexNum; j++)

{

if (distance[i][j]>(distance[i][k] + distance[k][j])&&distance[i][k]!=INF&&distance[k][j]!=INF)

{

distance[i][j] = (distance[i][k] + distance[k][j]);

}

}

}

}

outF=fopen("output.txt","w");

for (int i = 0; i < vertexNum; i++)

{

for (int j = 0; j < vertexNum; j++)

{

fprintf(outF,"%d ", distance[i][j]);

}

fprintf(outF,"\n");

}

fclose(outF);

}

**<output>**

**Shortest path distance**