#include<iostream>

using namespace std;

string city[10];

int d[10][10];

int size;

int val;

void cityname(){

cout<<"Enter the number of cities : ";

cin>>size;

for(int i=0;i<size;i++){

cout<<"Enter Name city no. "<<i+1<<" : ";

cin>>city[i];

}

}

void distance(){

for(int i=0;i<size;i++){

for(int j=0;j<size;j++){

if(i!=j && d[i][j]==0){

cout<<"Enter distance between "<<city[i]<<" -> "<<city[j]<<" : ";

cin>>val;

d[i][j]=val;

d[j][i]=val;

}

}

}

}

void add(){

cout<<"Enter Name of city : ";

cin>>city[size];

size++;

distance();

}

void display(){

for(int i=0;i<size;i++){

cout<<" "<<city[i];

}

cout<<endl;

cout<<endl;

for(int i=0;i<size;i++){

cout<<city[i];

for(int j=0;j<size;j++){

cout<<" "<<d[i][j];

}

cout<<endl;

cout<<endl;

}

}

int main(){

cityname();

distance();

int ch;

while(true){

cout<<"1. Add a city "<<endl;

cout<<"2. Display weight representation : "<<endl;

cout<<"3. Exit"<<endl;

cout<<"enter choice : ";

cin>>ch;

if(ch==1){

add();

}

else if(ch==2){

display();

}

else if(ch==3){

break;

}

}

}