#include<iostream>  
#include<ctime>  
using namespace std;  
double clk;  
clock\_t starttime, endtime;  
const int MAX\_V=10;  
void warshall(int n,int graph[MAX\_V][MAX\_V])  
{  
for(int k=0;k<n;k++)  
{  
for(int i=0;i<n;i++)  
{  
for(int j=0;j<n;j++)  
{  
graph[i][j]=graph[i][j] || (graph[i][k] && graph[k][j]);  
}  
}  
}  
}  
int main()  
{  
int n,graph[MAX\_V][MAX\_V];  
cout<<"enter the number of vertices: ";  
cin>>n;  
cout<<"enter the adhacency matrix(1 if there is an edge, 0 otherwise):\n";  
for(int i=0;i<n;i++)  
for(int j=0;j<n;j++)  
cin>>graph[i][j];  
starttime=clock();  
warshall(n,graph);  
endtime=clock();  
clk=(double)(endtime-starttime)/CLOCKS\_PER\_SEC;  
cout<<"transitive closure matrix is\n";  
for(int i=0;i<n;i++)  
{  
for(int j=0;j<n;j++)  
{  
cout<<graph[i][j]<<"\t";  
}  
cout<<"\n";  
}  
cout<<"the run time is "<<clk<<"seconds \n";  
return 0;  
}