//... A Program to represent a Graph by using an Adjacency Matrix method

#include <stdio.h>

#include <stdlib.h>

void dirgraph();

void readgraph();

void main()

{

printf("\n A Program to represent a Graph by using an ");

printf("Adjacency Matrix method \n ");

dirgraph();

getch();

}

void readgraph ( int adjmat[50][50], int n )

{

int i, j;

int reply;

for ( i = 1 ; i <= n ; i++ )

{

for ( j = 1 ; j <= n ; j++ )

{

printf("\n Vertices %d & %d are Adjacent ? (999/0) :",i,j);

scanf("%d", &reply);

if ( reply == 999)

adjmat[i][j] = 1;

else

adjmat[i][j] = 0;

}

}

}

void dirgraph()

{

int adjmat[50][50];

int n;

int indeg, outdeg, i, j;

printf("\n How Many Vertices ? : ");

scanf("%d", &n);

readgraph(adjmat, n);

printf("\n Vertex \t InDegree \t OutDegree ");

for (i = 1; i <= n ; i++ )

{

indeg = outdeg = 0;

for ( j = 1 ; j <= n ; j++ )

{

if ( adjmat[j][i] == 1 )

indeg++;

}

for ( j = 1 ; j <= n ; j++ )

{

if (adjmat[i][j] == 1 )

outdeg++;

}

printf("\n\ %d\t\t %d\t %d\t\n",i,indeg,outdeg);

}

}