WARSHALLS ALGORITHM:

PROGRAM:

```c
#include <stdio.h>
#include <conio.h>
int n, a[10][10], p[10][10];

void warshall(int n, int a[10][10], int p[10][10])
{
    int i, j, k;
    for (i = 0; i < n; i++)
        for (j = 0; j < n; j++)
            p[i][j] = a[i][j];

    for (k = 0; k < n; k++)
        for (i = 0; i < n; i++)
            for (j = 0; j < n; j++)
                if ((p[i][j] == 0) && (p[i][k] == 1 && p[k][j] == 1))
                    p[i][j] = 1;
}
void main()
{
    int i, j;
    printf("Enter the number of vertices: ");
    scanf("%d", &n);
    printf("Enter the adjacency matrix\n");
    for (i = 0; i < n; i++)
    {
        for (j = 0; j < n; j++)
        {
            scanf("%d", &a[i][j]);
        }
    }
    warshall(n, a, p);
    printf("Trasitive closure:\n");
    for (i = 0; i < n; i++)
    {
        for (j = 0; j < n; j++)
        {
            printf("%d  ", p[i][j]);
        }
        printf("\n");
    }
}
```

OUTPUT:

```
User@PRATHIKSHA /c/ada lab
$ cd "/c/ada lab/" && gcc warshall.c -o warshall && "/c/ada lab/"warshall
Enter the number of vertices: 4
Enter the adjacency matrix
0 1 1 0
0 0 1 1
0 0 0 1
0 0 0 0
Trasitive closure:
0  1  1  1
0  0  1  1
0  0  0  1
0  0  0  0
```