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NAAC GRADE A+ ACCREDITED UNIVERSITY

Experiment No. 3.1

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Section/Group: MCD-1/ Grp B
Semester: I
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Subject Name: DAA Lab
Subject Code: 22CAP-646

1. Aim/Overview of the practical:

Compute the transitive closure of a given directed graph using Warshall's algorithm

2. Code for practical:

```
#include<stdio.h>
#define INF 999999
void func(int a[4][4], int n)
{
    for(int k=0;k<n;k++)
    {
        for(int i=0; i<n; i++)
        {
            for(int j=0;j<n; j++)
            {
                if(a[i][j]>a[i][k]+a[k][j])
                {
                    a[i][j]=a[i][k]+a[k][j];
                }
            }
        }
    }

    printf("All pairs shortest path is: \n");
    for(int i=0; i<n; i++)
    {
        for(int j=0; j<n; j++)
        {
            printf("%d \t", a[i][j]);
        }
```

```
            printf("\n");
        }
    }
    int main()
    {
        int b[4][4] = {
            {0, 9, -4, INF},
            {6, 0, INF, 2},
            {INF, 5, 0, INF},
            {INF, INF, 1, 0}

        };
        int n=4;
        func(b,n);
    }
```

3. **Output:**

```
All pairs shortest path is:
0   1   -4  3
6   0   2   2
11  5   0   7
12  6   1   0
```

********** THE END **********