NAME: Mithil Raj

USN: 1BI19CS086

ADA Lab test - 2

Sec: 'B', Sem '6th'

Question:

Implement Warshall's algorithm using dynamic porogramming.

->

```
#include <stdio.h>
 Void Warshalls ();
int a[10][10], p[10][10], i, j, k, n;
Void main()
 {
printf("Enter the number of vertices\n");
scanf("%d", &n);
printf(" enter the adajacent matrix\n");
for(i=1; i<=n; i++)
   {
  for(j=1; j<=n; j++)
  {
scanf("%d", &a[i][j]);
 }
}
Warshalls ();
printf(" path Matrix \n");
for(i=1; i<=n; i++)
 {
for( j=1; j<=n; j++).
{
```

```
printf("%d\t", p[i][j]);
 }
printf("\n");
  }
getch();
 }
Void warshalls()
{
for(i=1; ic=n; i++)
 {
for(j=1; jc=n; j++)
 {
 p[i][j]=a[i][j];
 }
}
for(k=1; kc=n; k++)
 {
 for(i=1, ic=n; i++)
 {
for(j=1; jc=n; j++)
 {
if(p[i][j]!=1)&&(p[i][k]==1&&
    p[k][j]==1))
   p[i][j]=1;
  }
 }
}
}
```

modification :-

```
}
for (i=1; i<=n; i++)
{
if (p[i][i]==1)
  {
  count++;
  }
}
if (count==0)
{
printf("\n the graph does not contain
        any cycle\n");
}
else
{
printf("\n Graph contains cycle with.
     vertices:\n");
  for (i=1; i<=n; i++)
    {
    if(p[i][i]==1)
  {
  printf("%d", i);
      }
    }
}
```