LAB-9
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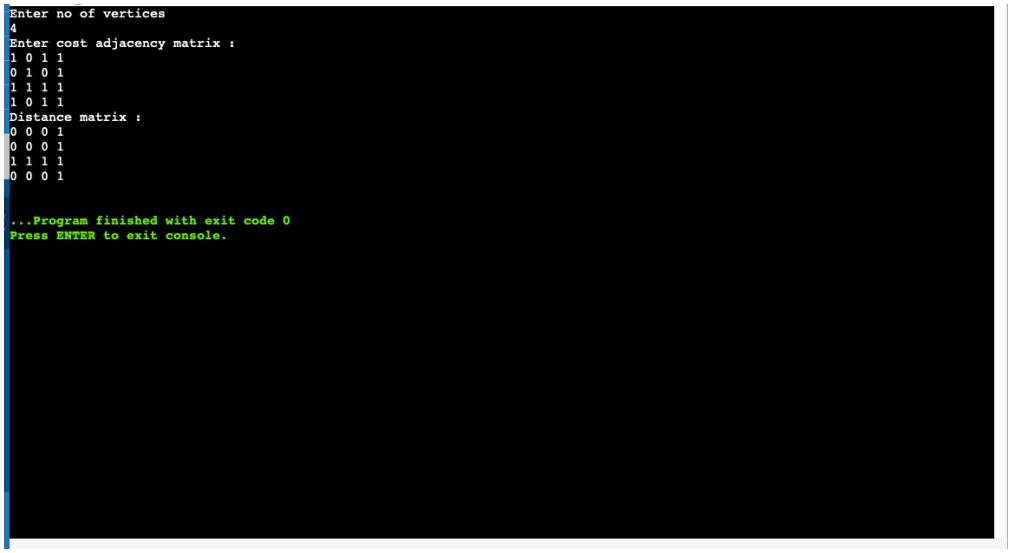
```
#include<stdio.h>
#include<conio.h>
int a[10][10],d[10][10],n;
void floyds();
int min(int ,int);
void main()
{
	printf("Enter no of vertices\n");
	scanf("%d",&n);
	printf("Enter cost adjacency matrix :\n");
	for(int i=1;i<=n;i++)
	{
		for(int j=1;j<=n;j++)
			scanf("%d",&a[i][j]);
	}
	floyds();
	printf("Distance matrix :\n");
	for(int i=1;i<=n;i++)
	{
		for(int j=1;j<=n;j++)
			printf("%d ",d[i][j]);
		printf("\n");
	}
}

void floyds()
{
	for(int i=1;i<=n;i++)
	{
		for(int j=1;j<=n;j++)
			d[i][j]=a[i][j];
	}
	for(int k=1;k<=n;k++)
	{
		for(int i=1;i<=n;i++)
		{
			for(int j=1;j<=n;j++)
			{
				d[i][j]=min(d[i][j],d[i][k]+d[k][j]);
			}
```

```
                }
        }
}
int min(int a,int b)
{
        if(a<b)
                return a;
        else
                return b;
}
```



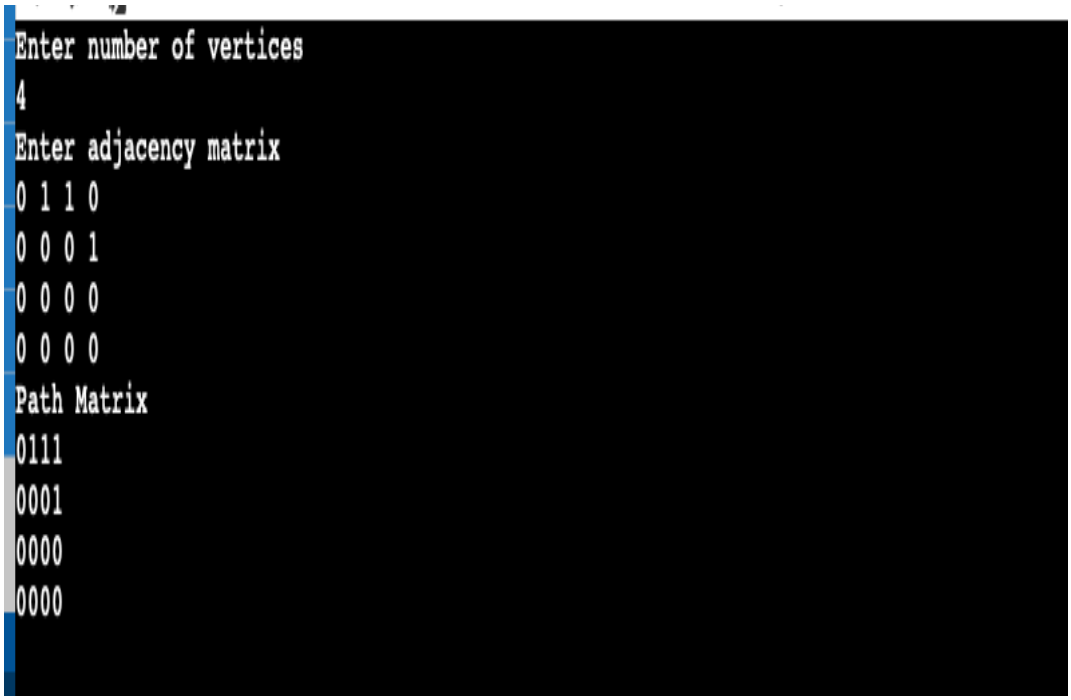

```
#include<stdio.h
>

                        void warshalls();

                        int a[10][10], p[10][10],i,j,k,n;

                        void main()

                        {

                        printf("Enter number of vertices\n");
```

```
scanf("%d",&n);

printf("Enter adjacency 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",p[i][j]);

}

printf("\n");

}

}
void warshalls()

{

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

{

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

{
```

```
p[i][j]=a[i][j];

}

}

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

{

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

{

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

{

if((p[i][j]!=1) && (p[i][k]==1 &&
p[k][j]==1))

p[i][j]=1;

}

}
```

```
}

}
```


Enter number of vertices
4
Enter adjacency matrix
0 1 1 0
0 0 0 1
0 0 0 0
0 0 0 0
Path Matrix
0111
0001
0000
0000