

CODE:

```
#include<stdio.h>

#include<conio.h>

int a[10][10],n;

void floyds();

int min(int,int);

void main()

{

int i,j;

printf("\nenter the no. of vertices:\t");

scanf("%d",&n);

printf("\n enter the cost matrix:\n");

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

{

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

{

scanf("%d",&a[i][j]);

}

}

floyds();

getch();

}

void floyds()

{

int i,j,k;

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

{
```

```

for(i=1;i<=n;i++)
{
for(j=1;j<=n;j++)
{
a[i][j]=min(a[i][j],a[i][k]+a[k][j]);
}
}
}

printf("\nall pair shortest path matrix is:\n");

for(i=1;i<=n;i++)
{
for(j=1;j<=n;j++)
{
printf("%d\t",a[i][j]);
}
printf("\n\n");
}
}

int min(int x,int y)
{
if(x<y)
{
return x;
}
else
{

```

```
return y;
```

```
}
```

```
}
```

OUTPUT:

```
enter the no. of vertices:
```

```
4
```

```
enter the cost matrix:
```

```
5 4 2 1
```

```
5 3 2 2
```

```
2 1 0 0
```

```
1 1 1 8
```

```
all pair shortest path matrix is:
```

```
2      2      2      1
```

```
3      3      2      2
```

```
1      1      0      0
```

```
1      1      1      1
```

```
...Program finished with exit code 0
```

```
Press ENTER to exit console. █
```