main.c

```c
#include<stdio.h>
#include<stdlib.h>
int a[10][10],n;
void floyds();
int min(int,int);
int main()
{
 int i,j;
 printf("\nenter the no. of vertices:\t");
 scanf("%d",&n);
 printf("\nenter the cost matrix:\n");
 for(i=1;i<=n;i++)
 {
  for(j=1;j<=n;j++)
  {
   scanf("%d",&a[i][j]);
  }
 }
 floyds();
}
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]);
  }
```

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```
39      printf("%d\t",a[i][j]);
40      }
41      printf("\n\n");
42     }
43    }
44    int min(int x,int y)
45    {
46     if(x<y)
47     {
48      return x;
49     }
50     else
51     {
52      return y;
53     }
54    }
55
```

Console Shell

```
> clang-7 -pthread -lm -o main main.c
> ./main

enter the no. of vertices:  4

enter the cost matrix:
888 888 3 888
2 888 888 888
888 7 888 1
6 888 888 888

all pair shortest path matrix is:
10  10  3   4

2   12  5   6

7   7   10  1

6   16  9   10

>
```