

```

1  /*****
2
3      Online C Compiler.
4      Code, Compile, Run and Debug C program online.
5      Write your code in this editor and press "Run" button to compile a
6
7  *****/
8  #include<stdio.h>
9  #define V 4
10 #define INF 1000
11
12 void printSolution(int dist[][V]);
13
14 int min(int i,int j)
15 {
16     if(i<j)
17         return i;
18     return j;
19 }
20
21 void floyd(int A[][4])
22 {
23     int i,j,k,P[4][4];
24     for(i=0;i<4;i++)
25         for(j=0;j<4;j++)
26             P[i][j]=A[i][j];
27
28     for(k=0;k<4;k++)
29         for(i=0;i<4;i++)
30             for(j=0;j<4;j++)
31                 P[i][j]=min(P[i][j],P[i][k]+P[k][j]);
32     printSolution(P);
33 }
34
35 void printSolution(int dist[][V])
36 {
37     printf ("The following matrix shows the shortest distances"
38            " between every pair of vertices \n");

```

input



main.c

```

25     for(j=0;j<4;j++)
26         P[i][j]=A[i][j];
27
28     for(k=0;k<4;k++)
29         for(i=0;i<4;i++)
30             for(j=0;j<4;j++)
31                 P[i][j]=min(P[i][j],P[i][k]+P[k][j]);
32     printSolution(P);
33 }
34
35 void printSolution(int dist[][V])
36 {
37     printf ("The following matrix shows the shortest distances"
38            " between every pair of vertices \n");
39     for (int i = 0; i < V; i++)
40     {
41         for (int j = 0; j < V; j++)
42         {
43             if (dist[i][j] == INF)
44                 printf("%7s", "INF");
45             else
46                 printf ("%7d", dist[i][j]);
47         }
48         printf("\n");
49     }
50 }
51
52
53 int main()
54 {
55     int graph[V][V] = { {0,    INF,  3,  INF},
56                         {2,  0,    INF,  INF},
57                         {INF, 7,  0,    1},
58                         {6,  INF,  INF,  0}
59                     };
60     floyd(graph);
61     return 0;
62 }

```

input

The following matrix shows the shortest distances between every pair of vertices

|   |    |   |   |
|---|----|---|---|
| 0 | 10 | 3 | 4 |
| 2 | 0  | 5 | 6 |
| 7 | 7  | 0 | 1 |
| 6 | 16 | 9 | 0 |

...Program finished with exit code 0  
Press ENTER to exit console.