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| **PART – A**  **Note: Implement the following Computer Networks concepts using C/C++** |
| **1. Write a program for distance vector algorithm to find suitable path for transmission.** |
| #include<stdio.h> |
| #include<stdlib.h> |
| int a[8][8],n; |
| void floyd() |
| { |
| 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]); |
| } |
| } |
| } |
| } |
| int min(int a,int b) |
| { |
| return a<b?a:b; |
| } |
| int main() |
| { |
| int i,j; |
| printf("\n Enter the no of routers:"); |
| scanf("%d",&n); |
| printf("\n Enter the distance matrix values\n"); |
| for(i=1;i<=n;i++) |
| for(j=1;j<=n;j++) |

{

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

if(a[i][j]==0)

a[i][j]=999;

if(i==j) a[i][j]=0;

}

floyd();

printf("\n Distance Vector Matrix \n"); for(i=1;i<=n;i++)

{

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

{

printf(" %2d",a[i][j]);

}

printf("\n");

}

}

Output:

Enter the number of routers:4 Enter the distance matrix values

|  |  |  |  |
| --- | --- | --- | --- |
| 0 | 999 | 3 | 999 |
| 2 | 0 | 999 | 999 |
| 999 | 7 | 0 | 1 |
| 6 | 999 | 999 | 0 |

Distance Vector Matrix is

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