

## 1.All-Pair Shortest Path (Floyd Warshall Algo.)

```
#include <stdio.h>
#define INF 99999
#define N 4

int main(){
    int i,j,k;
    int d[N][N] = {
        {0, 5, INF, 10},
        {INF, 0, 3, INF},
        {INF, INF, 0, 1},
        {INF, INF, INF, 0}
    };

    for(k=0;k<N;k++)
        for(i=0;i<N;i++)
            for(j=0;j<N;j++)
                if(d[i][k]+d[k][j] < d[i][j])
                    d[i][j] = d[i][k] + d[k][j];

    for(i=0;i<N;i++){
        for(j=0;j<N;j++)
            if(d[i][j]==INF) printf("INF ");
            else printf("%d ", d[i][j]);
        printf("\n");
    }
}
```



main.c

Output



```
0 5 8 9
```

```
INF 0 3 4
```

```
INF INF 0 1
```

```
INF INF INF 0
```

```
=== Code Execution Successful ===
```