

## Floyds Algorithm

```
#include <stdio.h>
int n;

void floydWarshall(int matrix[n][n]){
    int mat[n][n];
    for(int i = 0; i < n; i++){
        for(int j = 0; j < n; j++){
            mat[i][j] = matrix[i][j];
        }
    }
    for(int k = 0; k < n; k++){
        for(int i = 0; i < n; i++){
            for(int j = 0; j < n; j++){
                if(mat[i][j]>mat[i][k]+mat[k][j]){
                    mat[i][j]=mat[i][k]+mat[k][j];
                }
            }
        }
    }
    for(int i = 0; i < n; i++){
        for(int j = 0; j < n; j++){
            printf("%d\t",mat[i][j]);
        }
        printf("\n");
    }
}

int main(){
    printf("\nEnter the number of vertices: ");
    scanf("%d",&n);
    int m[n][n];
    printf("\nEnter matrix:\n");
    for(int i=0;i<n;i++){
        for(int j=0;j<n;j++){
            scanf("%d",&m[i][j]);
        }
    }
}
```

```

    }
}
printf("Shortest path matrix:\n");
floydWarshall(m);
return 0;
}

```

The screenshot shows a Visual Studio Code window with the following components:

- EXPLORER:** A file tree on the left showing a project named '1BM21CS180'. It contains several files: `.vscode`, `ada_five.c`, `ada_five.exe`, `ada_four.c`, `ada_four.exe`, `ada_one.c`, `ada_one.exe`, `ada_six.c` (selected), `ada_six.exe`, `ada_three.c`, `ada_three.exe`, `ada_two.c`, and `ada_two.exe`.
- TERMINAL:** A terminal window on the right showing the execution of the program. The commands and output are as follows:
 

```

PS C:\Users\Admin\Desktop\1BM21CS180> cd "c:\Users\Admin\Desktop\1BM21CS180\" ; if ($?) { gcc
ada_six.c -o ada_six } ; if ($?) { .\ada_six }

Enter the number of vertices: 4

Enter matrix:
0 3 999 5
2 0 999 4
999 1 0 999
999 999 2 0
Shortest path matrix:
0      3      7      5
2      0      6      4
3      1      0      5
5      3      2      0
PS C:\Users\Admin\Desktop\1BM21CS180>

```

The status bar at the bottom indicates the current line and column (Ln 41, Col 2), the number of selected characters (663), the encoding (UTF-8), the line ending (CRLF), and the language (C). The system tray shows the date and time (24-07-2023, 15:49).