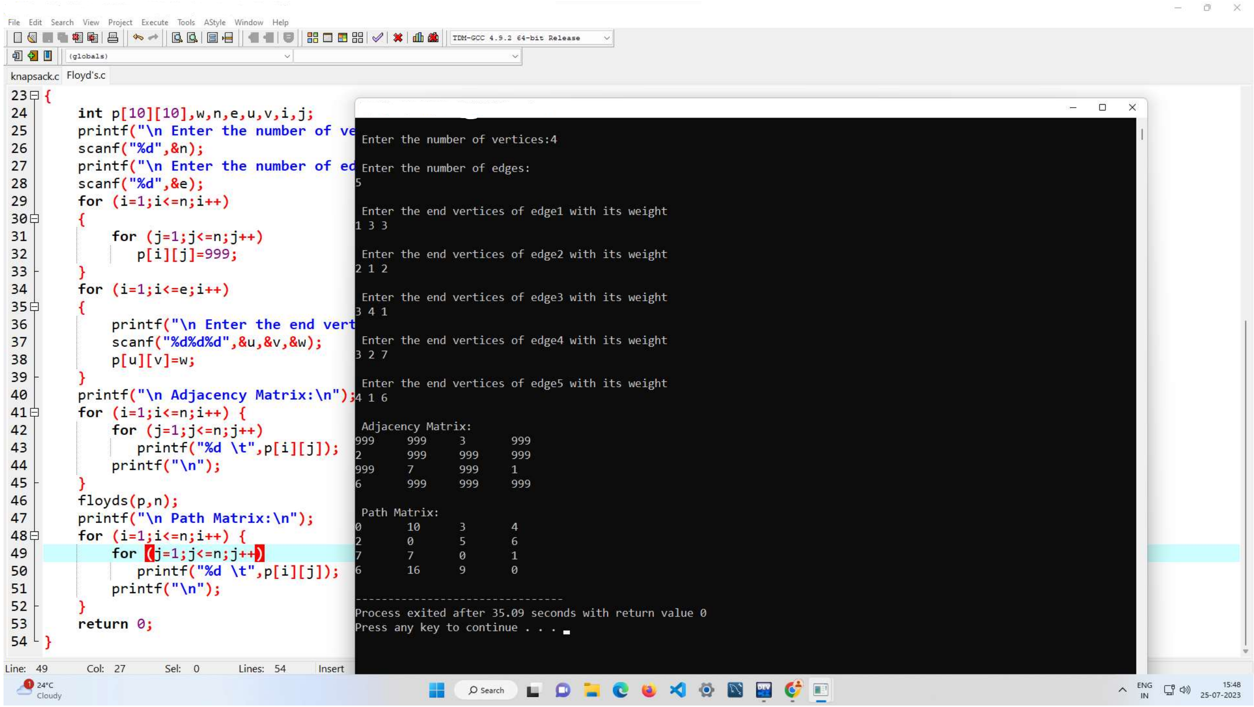
Floyd’s
ADA Lab

```
#include<stdio.h>
#include<conio.h>
int min(int,int);
void floyds(int p[10][10],int n)
{
        int i,j,k;
        for (k=1;k<=n;k++)
                for (i=1;i<=n;i++)
                        for (j=1;j<=n;j++)
                                if(i==j)
                                p[i][j]=0;
                                else
                                p[i][j]=min(p[i][j],p[i][k]+p[k][j]);
}
int min(int a,int b)
{
        if(a<b)
                return(a);
        else
                return(b);
}
int main()
{
        int p[10][10],w,n,e,u,v,i,j;
        printf("\n Enter the number of vertices:");
        scanf("%d",&n);
```

```
    printf("\n Enter the number of edges:\n");
    scanf("%d",&e);
    for (i=1;i<=n;i++)
    {
        for (j=1;j<=n;j++)
          p[i][j]=999;
    }
    for (i=1;i<=e;i++)
    {
        printf("\n Enter the end vertices of edge%d with its
weight \n",i);
        scanf("%d%d%d",&u,&v,&w);
        p[u][v]=w;
    }
    printf("\n Adjacency Matrix:\n");
    for (i=1;i<=n;i++) {
        for (j=1;j<=n;j++)
          printf("%d \t",p[i][j]);
        printf("\n");
    }
    floyds(p,n);
    printf("\n Path Matrix:\n");
    for (i=1;i<=n;i++) {
        for (j=1;j<=n;j++)
          printf("%d \t",p[i][j]);
        printf("\n");
    }
    return 0;
}
```

Output:


File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
knapsack.c
Floyd's.c
Line: 49 Col: 27 Sel: 0 Lines: 54 Insert
24°C
Cloudy
Search
ENG
IN
15:48
25-07-2023

```c
{
    int p[10][10],w,n,e,u,v,i,j;
    printf("\n Enter the number of ve
    scanf("%d",&n);
    printf("\n Enter the number of ed
    scanf("%d",&e);
    for (i=1;i<=n;i++)
    {
        for (j=1;j<=n;j++)
           p[i][j]=999;
    }
    for (i=1;i<=e;i++)
    {
        printf("\n Enter the end vert
        scanf("%d%d%d",&u,&v,&w);
        p[u][v]=w;
    }
    printf("\n Adjacency Matrix:\n");
    for (i=1;i<=n;i++) {
        for (j=1;j<=n;j++)
           printf("%d \t",p[i][j]);
        printf("\n");
    }
    floyds(p,n);
    printf("\n Path Matrix:\n");
    for (i=1;i<=n;i++) {
        for (j=1;j<=n;j++)
           printf("%d \t",p[i][j]);
        printf("\n");
    }
    return 0;
}
```

```
 Enter the number of vertices:4

 Enter the number of edges:
5

 Enter the end vertices of edge1 with its weight
1 3 3

 Enter the end vertices of edge2 with its weight
2 1 2

 Enter the end vertices of edge3 with its weight
3 4 1

 Enter the end vertices of edge4 with its weight
3 2 7

 Enter the end vertices of edge5 with its weight
4 1 6

 Adjacency Matrix:
999     999     3       999
2       999     999     999
999     7       999     1
6       999     999     999

 Path Matrix:
0       10      3       4
2       0       5       6
7       7       0       1
6       16      9       0

--------------------------------
Process exited after 35.09 seconds with return value 0
Press any key to continue . . .
```