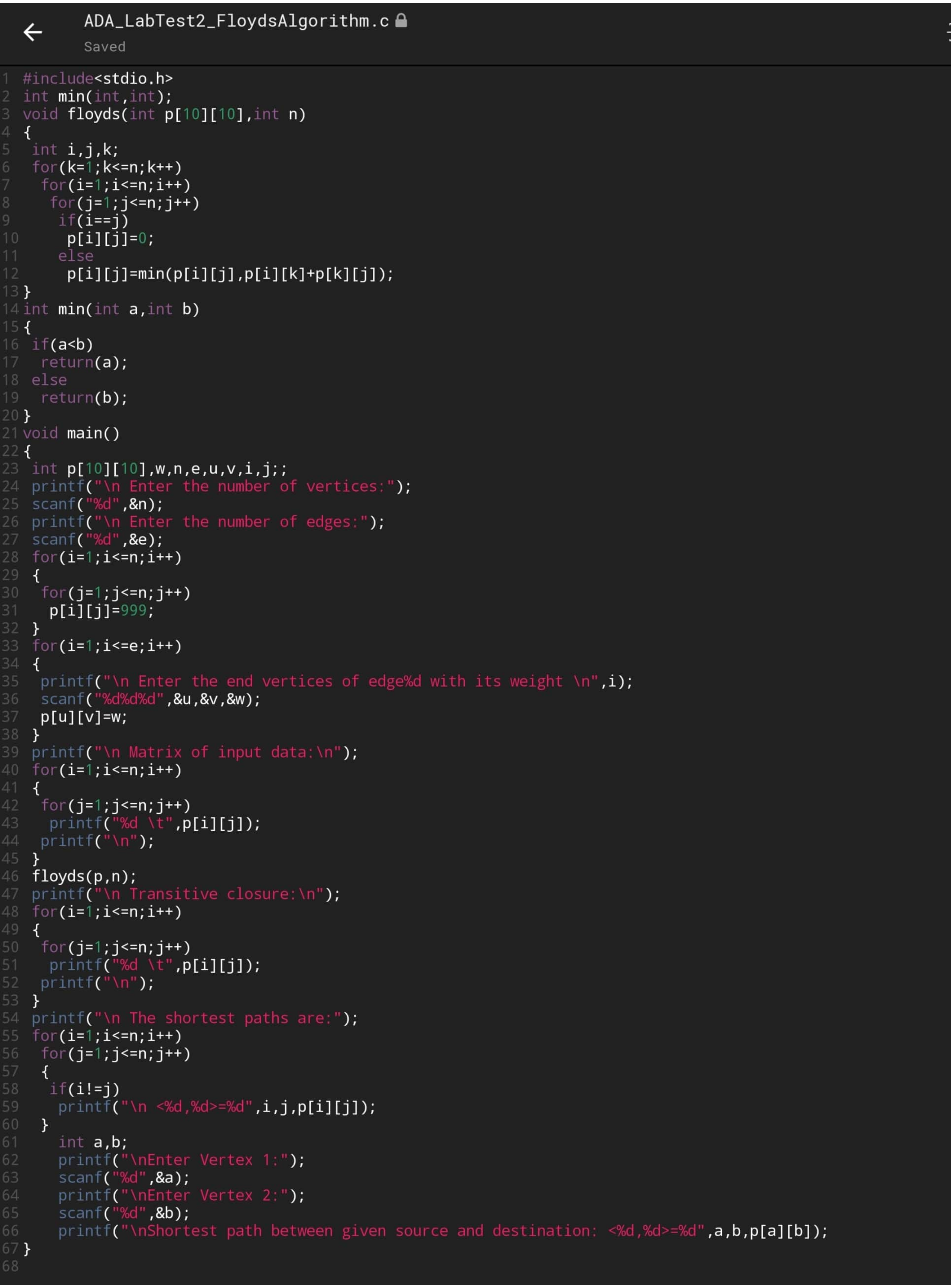
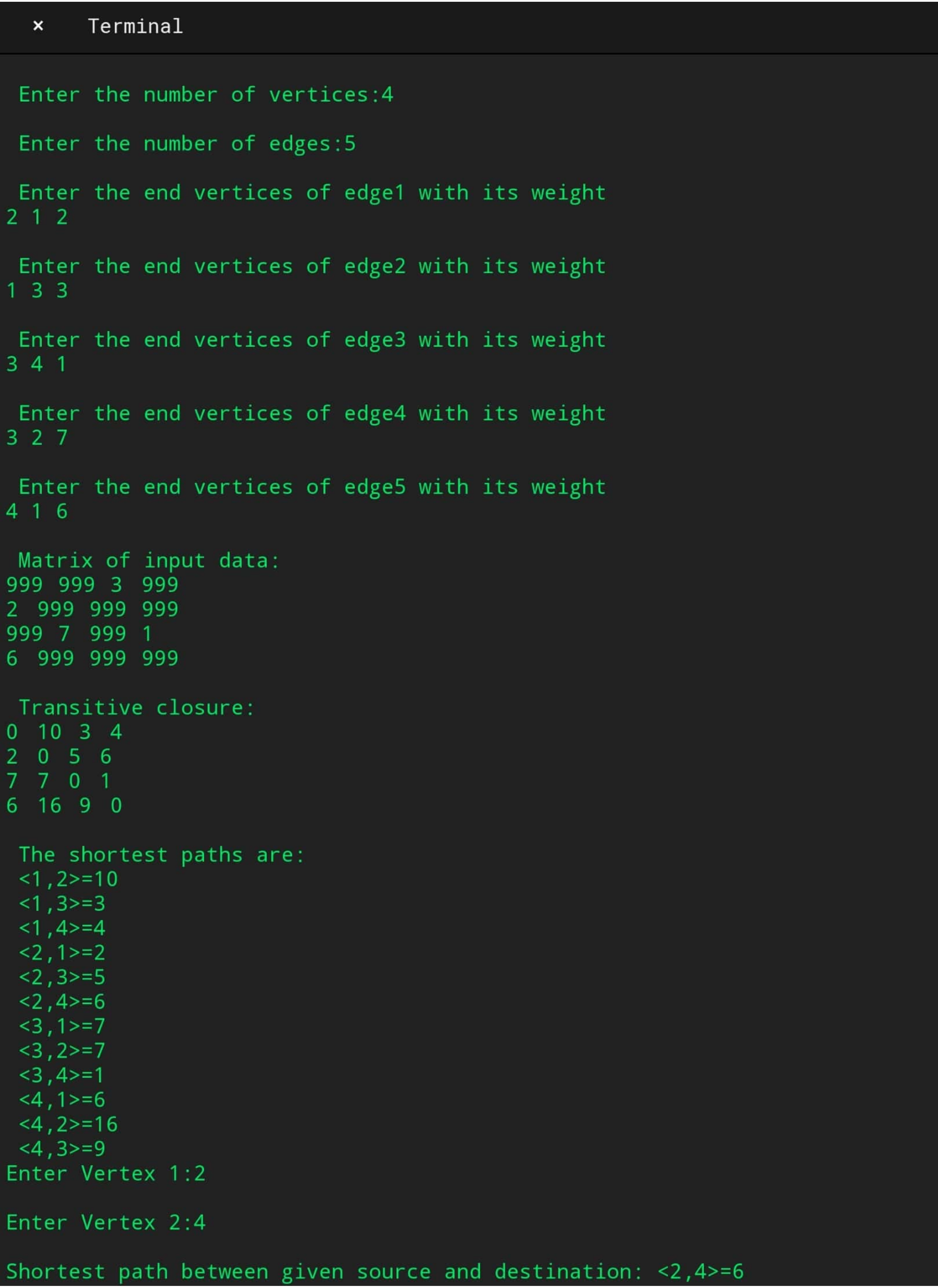


```c
#include<stdio.h>
int min(int,int);
void floyds(int p[10][10],int n)
{
 int i,j,k;
 for(k=1;k<=n;k++)
  for(i=1;i<=n;i++)
   for(j=1;j<=n;j++)
    if(i==j)
     p[i][j]=0;
    else
     p[i][j]=min(p[i][j],p[i][k]+p[k][j]);
}
int min(int a,int b)
{
 if(a<b)
  return(a);
 else
  return(b);
}
void 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:");
 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 Matrix of input data:\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 Transitive closure:\n");
 for(i=1;i<=n;i++)
 {
  for(j=1;j<=n;j++)
   printf("%d \t",p[i][j]);
  printf("\n");
 }
 printf("\n The shortest paths are:");
 for(i=1;i<=n;i++)
  for(j=1;j<=n;j++)
  {
   if(i!=j)
    printf("\n <%d,%d>=%d",i,j,p[i][j]);
  }
    int a,b;
    printf("\nEnter Vertex 1:");
    scanf("%d",&a);
    printf("\nEnter Vertex 2:");
    scanf("%d",&b);
    printf("\nShortest path between given source and destination: <%d,%d>=%d",a,b,p[a][b]);
}
```



```
 Enter the number of vertices:4

 Enter the number of edges:5

 Enter the end vertices of edge1 with its weight
2 1 2

 Enter the end vertices of edge2 with its weight
1 3 3

 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

 Matrix of input data:
999 999 3  999
2  999 999 999
999 7  999 1
6  999 999 999

 Transitive closure:
0  10  3  4
2  0  5  6
7  7  0  1
6  16  9  0

 The shortest paths are:
 <1,2>=10
 <1,3>=3
 <1,4>=4
 <2,1>=2
 <2,3>=5
 <2,4>=6
 <3,1>=7
 <3,2>=7
 <3,4>=1
 <4,1>=6
 <4,2>=16
 <4,3>=9
Enter Vertex 1:2

Enter Vertex 2:4

Shortest path between given source and destination: <2,4>=6
```