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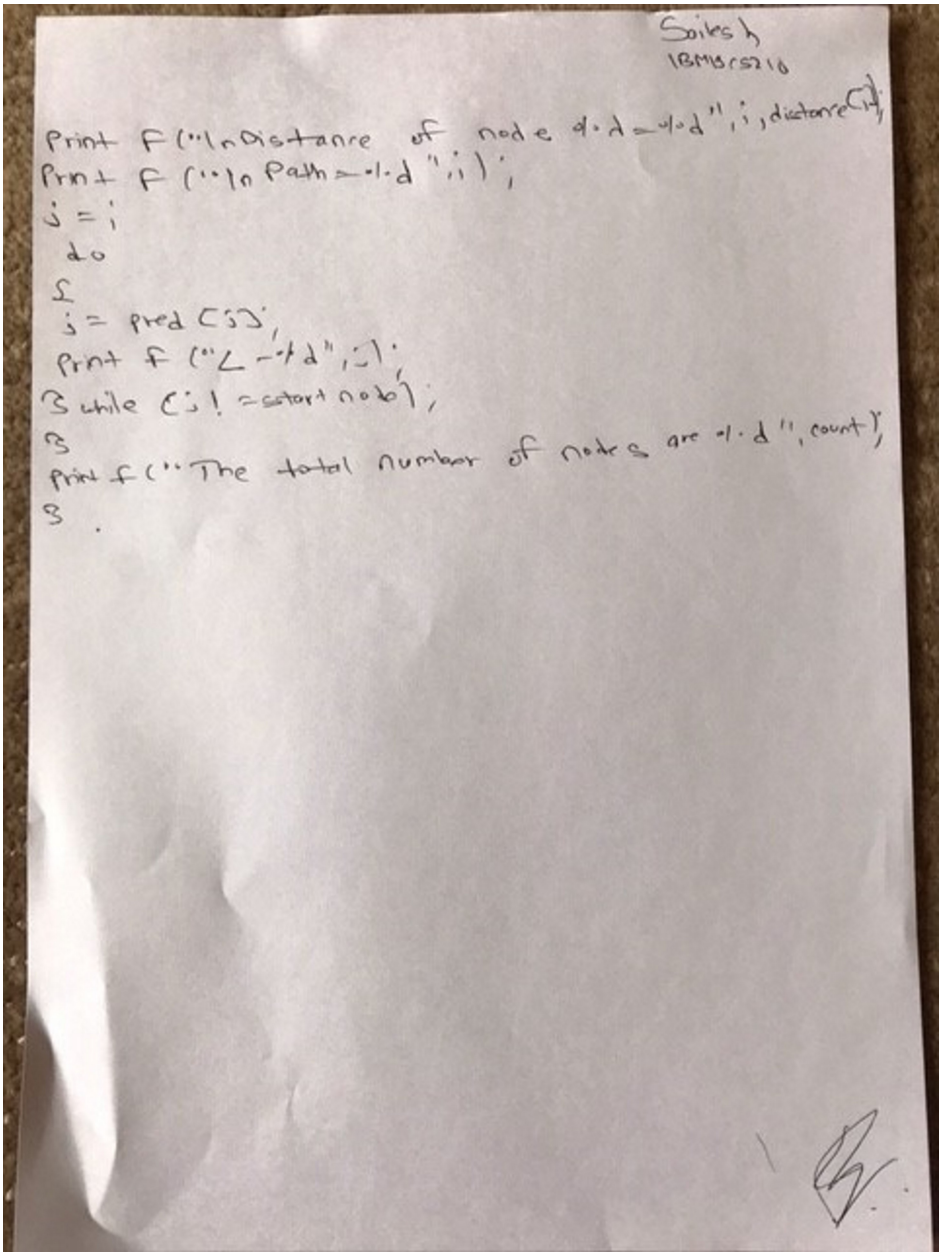
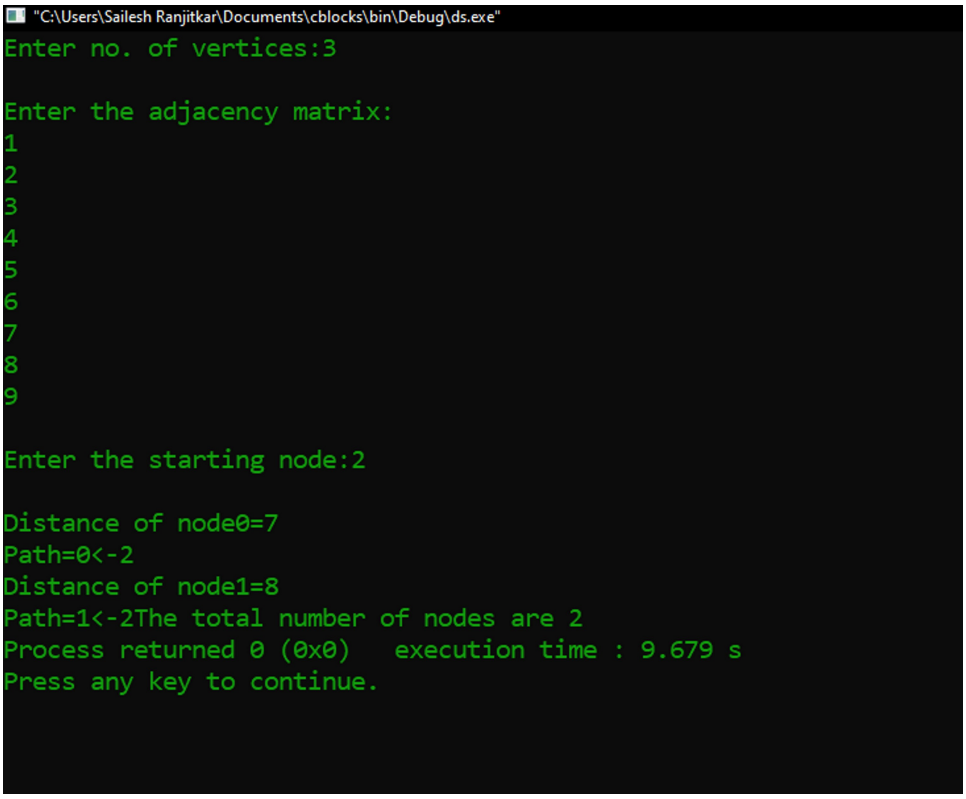
[With Modification] {Print number of nodes along shortest paths}

```
#include <stdio.h>
#include <conio.h>
#define INFINITY 9999
#define MAX 5
void dijkstra(int G[MAX][MAX], int n, int startnode);
int main()
{
int G[MAX][MAX], i,j,n,u;
printf("Enter no. of vertices:");
scanf("%d",&n);
printf("\nEnter the adjacency matrix:\n");
for(i=0;i<n;i++)
scanf("%d",&G[i][j]);
printf("\nEnter the starting node:");
scanf("%d",&u);
dijkstra(G,n,u);
return 0;
}
void dijkstra(int G[MAX][MAX],int n,int startnode)
{
int cost[MAX][MAX], distance[MAX], pred[MAX];
int visited[MAX], count, mindistance, nextnode, i,j;
for(i=0;i<n;i++)
for(j=0;j<n;j++)
if(G[i][j]==0)
cost[i][j]=INFINITY;
else
```

```
cost[i][j] = G[i][j];
for (i=0;i<n;i++)
{
 distance[i] = cost[startnode][i];
 Pred[i] = startnode;
 visited[i] = 0;
}
distance[startnode] = 0;
visited[startnode] = 1;
count = 1;
while (count < n-1)
{  mindistance = INFINITY;
if (distance[i] < mindistance && !visited[i])
{
mindistance = distance[i];
nextnode = i;
}.
visited[nextnode] = 1;
for (i=0;i<n;i++)
if (!visited[i])
if (mindistance + cost[nextnode][i] < distance[i])
{
 distance[i] = mindistance + cost[nextnode][i];
 Pred[i] = nextnode;
}
count++;
}
for (i=0;i<n;i++)
if (i!=startnode)
{
```



Output with MOD :



Output without MOD :