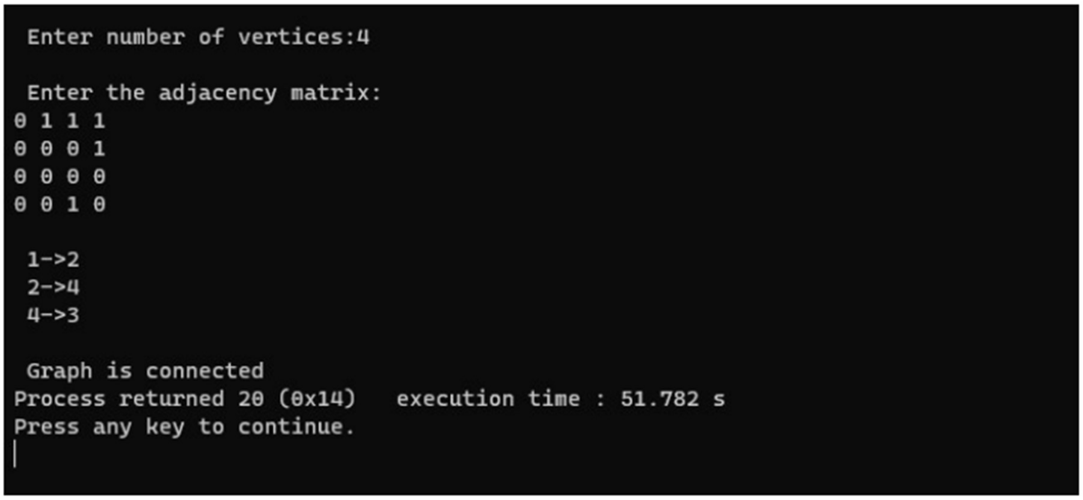
b) Write a program to check whether given graph is connected or not using DFS method.

```
#include<stdio.h>

int a[20][20],reach[20],n;

void dfs(int v)

{

int i;

reach[v]=1;

for(i=1;i<=n;i++)

if(a[v][i] && !reach[i])

{

printf("\n %d->%d",v,i);

dfs(i);

}

}

void main()

{

int i,j,count=0;

printf("\n Enter number of vertices:");

scanf("%d",&n);

for(i=1;i<=n;i++)

{
```

```
reach[i]=0;

for(j=1;j<=n;j++)

a[i][j]=0;

}
```

```
printf("\n Enter the adjacency matrix:\n");
for(i=1;i<=n;i++)
for(j=1;j<=n;j++)
scanf("%d",&a[i][j]);
dfs(1);
printf("\n");
for(i=1;i<=n;i++)
{
if(reach[i])
count++;
}
if(count==n)
printf("\n Graph is connected");
else
printf("\n Graph is not connected");
}
```

Output:



```
 Enter number of vertices:4

 Enter the adjacency matrix:
0 1 1 1
0 0 0 1
0 0 0 0
0 0 1 0

 1->2
 2->4
 4->3

 Graph is connected
Process returned 20 (0x14)   execution time : 51.782 s
Press any key to continue.
```