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Roll no : 04

Code :

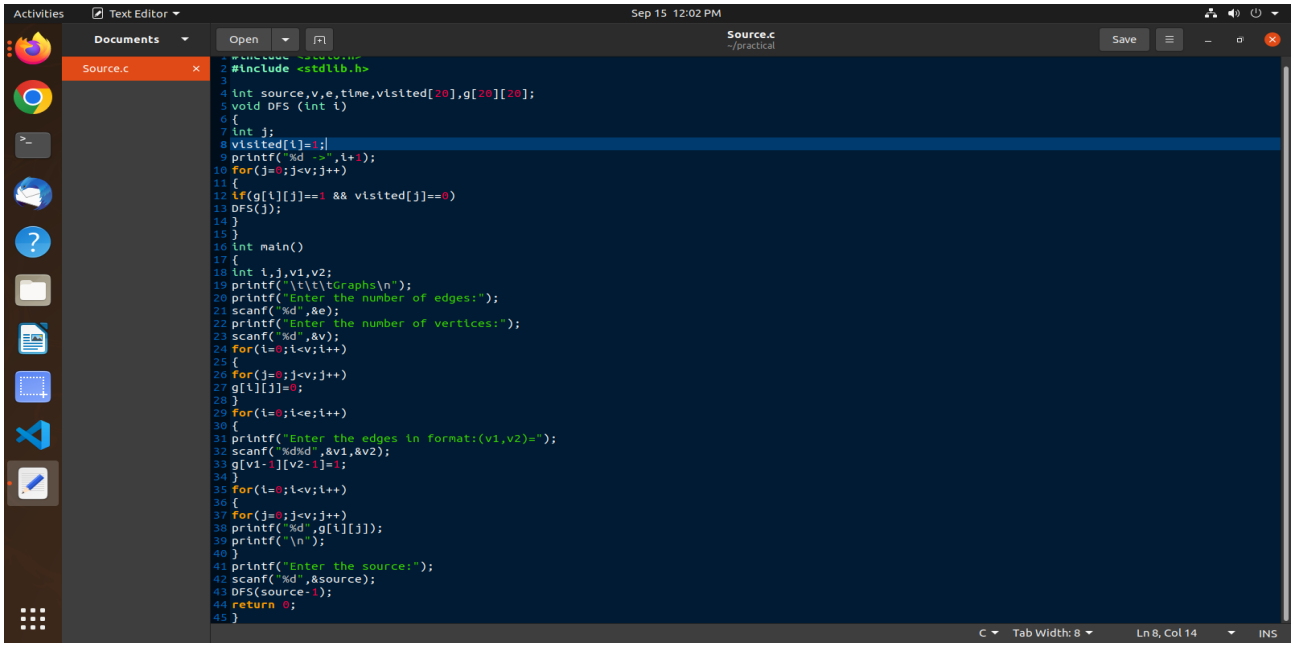
```
#include <stdio.h>
#include <stdlib.h>

int source,v,e,time,visited[20],g[20][20];
void DFS (int i)
{
int j;
visited[i]=1;
printf("%d ->",i+1);
for(j=0;j<v;j++)
{
if(g[i][j]==1 && visited[j]==0)
DFS(j);
}
}
int main()
{
int i,j,v1,v2;
printf("\t\t\tGraphs\n");
printf("Enter the number of edges:");
scanf("%d",&e);
printf("Enter the number of vertices:");
scanf("%d",&v);
for(i=0;i<v;i++)
{
for(j=0;j<v;j++)
g[i][j]=0;
}
for(i=0;i<e;i++)
{
printf("Enter the edges in format:(v1,v2)=");
scanf("%d%d",&v1,&v2);
g[v1-1][v2-1]=1;
}
for(i=0;i<v;i++)
{
for(j=0;j<v;j++)
printf("%d",g[i][j]);
printf("\n");
}
printf("Enter the source:");
scanf("%d",&source);
DFS(source-1);
```

return 0;
}

Output ScreenShort

I_1

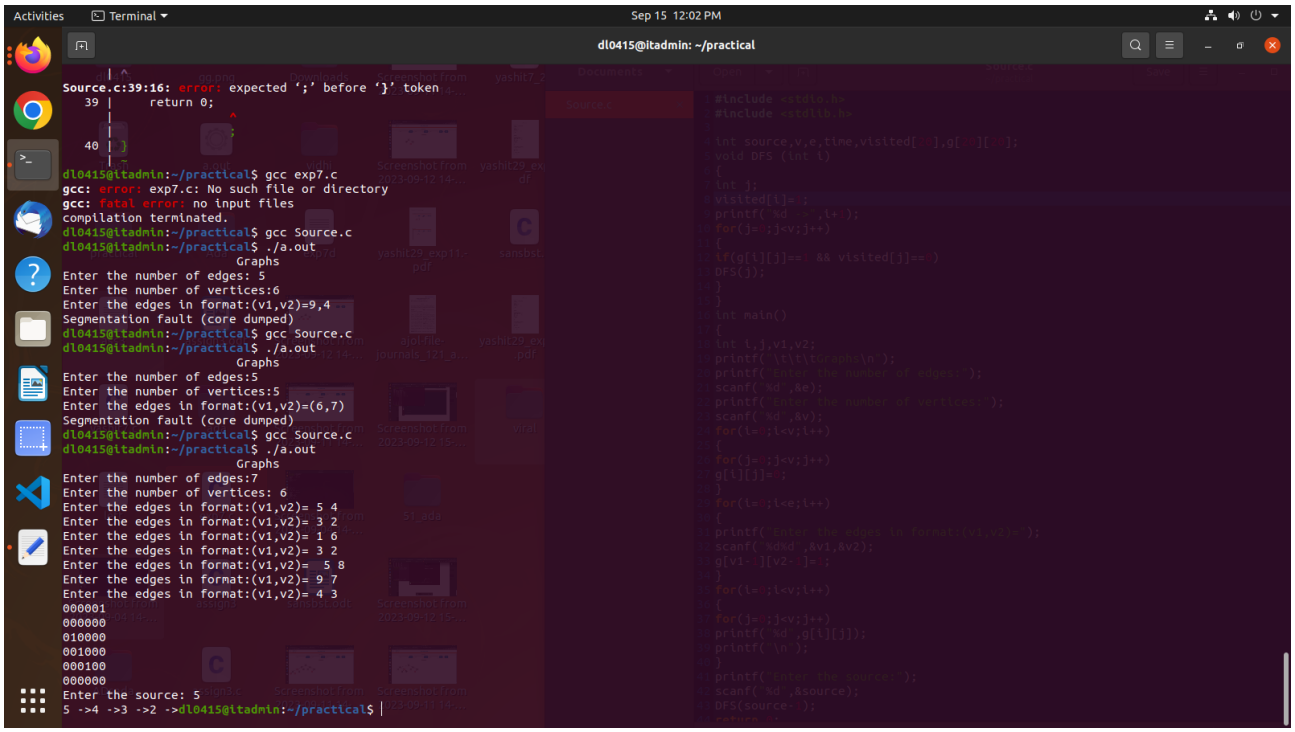



```
#include<stdio.h>
#include<stdlib.h>
int a[20][20],q[20],visit[20],n,f=-1,r=-1;

void bfs(int v)
{
 int i;
 for(i=0;i<n;i++)
 {
  if(a[v][i] !=0 && visit[i]==0)
  {
   r=r+1;
   q[r]=i;
   visit[i]=1;
   printf("%d",i);
  }
 }
 f=f+1;
 bfs(q[f]);
}

int main()
{
 int v,i,j;
 printf("\n Enter no. of vertices: ");
 scanf("%d",&n);
```

```
 for(i=0;i<n;i++)
 {
  visit[i]=0;
 }
 printf("\nEnter graph data in matrix form:\n");
 for(i=0;i<n;i++)
     for(j=0;j<n;j++)
          scanf("%d",&a[i][j]);
 printf("\nEnter the startung vertex: ");
 scanf("%d",&v);
 bfs(v);
 if(r!=n-1)
 printf("\nBFS not possible");
 printf("\n");
 return 0;
}
```



I_2_output