Harsh Dalal – SYIT – 6

Experiments 9

Code:
```c
#include <stdio.h>
#include <stdlib.h>
/*              ADJACENCY MATRIX                              */
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 no of edges:");
    scanf("%d",&E);
    printf("Enter the no of vertices:");
    scanf("%d",&V);
    for(i=0;i<V;i++)
    {
        for(j=0;j<V;j++)
            G[i][j]=0;
    }
    /*    creating edges :P    */
    for(i=0;i<E;i++)
    {
        printf("Enter the edges (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:

```
dl0411@itadmin:~/Desktop$ ./a.out
                    Graphs
Enter the no of edges:7
Enter the no of vertices:8
Enter the edges (format: V1 V2) : 1 2
Enter the edges (format: V1 V2) : 1 3
Enter the edges (format: V1 V2) : 1 4
Enter the edges (format: V1 V2) : 2 5
Enter the edges (format: V1 V2) : 2 6
Enter the edges (format: V1 V2) : 3 7
Enter the edges (format: V1 V2) : 4 8
 0  1  1  1  0  0  0  0
 0  0  0  0  1  1  0  0
 0  0  0  0  0  0  1  0
 0  0  0  0  0  0  0  1
 0  0  0  0  0  0  0  0
 0  0  0  0  0  0  0  0
 0  0  0  0  0  0  0  0
 0  0  0  0  0  0  0  0
Enter the source: 1
 1-> 2-> 5-> 6-> 3-> 7-> 4-> 8->dl0411@itadmin:~/Desktop$ clear
```