LAB_9(BFS)

```c
#include <stdio.h>

int G[20][20], visited[20], q[20], n, f = 0, r = -1;

void bfs(int v) {
    q[++r] = v;
    visited[v] = 1;

    while (f <= r) {
        int curr = q[f++];
        printf("%d ", curr);

        for (int i = 0; i < n; i++) {
            if (G[curr][i] && !visited[i]) {
                q[++r] = i;
                visited[i] = 1;
            }
        }
    }
}

int main() {
    int edges, u, v, start;

    printf("Enter number of vertices and edges: ");
    scanf("%d %d", &n, &edges);

    printf("Enter edges (u v):\n");
    for (int i = 0; i < edges; i++) {
        scanf("%d %d", &u, &v);
        G[u][v] = 1;
        G[v][u] = 1;
    }

    printf("Enter start vertex: ");
    scanf("%d", &start);

    printf("BFS Traversal: ");
    bfs(start);

    return 0;
}
```

OUTPUT:

```
f = 0, r = -1;
```

```
C:\Users\BMSCECSE-L4\Docu
Enter number of vertices and edges: 4 3
Enter edges (u v):
1 2
1 3
2 4
Enter start vertex: 1
BFS Traversal: 1 2 3
Process returned 0 (0x0)   execution time : 27.245 s
Press any key to continue.
```

```
i[i]) {
```

```
and edges
```

DFS–9(DFS):

```c
#include <stdio.h>

int G[20][20], visited[20], n;

void dfs(int v) {
    printf("%d ", v);
    visited[v] = 1;

    for (int i = 0; i < n; i++) {
        if (G[v][i] && !visited[i]) {
            dfs(i);
        }
    }
}

int main() {
    int edges, u, v, start;

    printf("Enter number of vertices and edges: ");
    scanf("%d %d", &n, &edges);

    printf("Enter edges (u v):\n");
    for (int i = 0; i < edges; i++) {
        scanf("%d %d", &u, &v);
        G[u][v] = 1;
        G[v][u] = 1;
    }

    printf("Enter start vertex: ");
    scanf("%d", &start);

    printf("DFS Traversal: ");
    dfs(start);

    return 0;
}
```

Output:

```
, ");


 i++) {
sited[i]) {


;

f vertices and
ges);

 v):\n");
ges; i++) {
 &v);



rtex: ");


 ");
```