

21.BREADTH FIRST SEARCH:-

Code:-

```
#include<stdio.h>

int a[8][7],q[4],visited[5],n,i,j,f=0,r=-1;

void bfs(int v) {
    for (i=1;i<=n;i++)
        if(a[v][i] && !visited[i])
            q[++r]=i;
    if(f<=r) {
        visited[q[f]]=1;
        bfs(q[f++]);
    }
}

int main() {
    int v;

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

    for (i=1;i<=n;i++) {
        q[i]=0;
        visited[i]=0;
    }

    printf("\n Enter graph data in matrix form:\n");

    for (i=1;i<=n;i++)
        for (j=1;j<=n;j++)
            scanf("%d",&a[i][j]);

    printf("\n Enter the starting vertex:");
    scanf("%d",&v);

    bfs(v);

    printf("\n The node which are reachable are:\n");

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

```
if(visited[i])  
printf("%d\t",i); else  
printf("\n Bfs is not possible");  
}
```

OUTPUT:-

```
Enter the number of vertices:2  
  
Enter graph data in matrix form:  
48  
86  
52  
24  
  
Enter the starting vertex:56  
  
The node which are reachable are:  
1      2  
-----  
Process exited after 19.26 seconds with return value 2  
Press any key to continue . . .
```