

main.c

```
1  #include<stdio.h>
2  #include<stdlib.h>
3  void insertq(int q[],int node, int *f, int *r)
4  {
5      if((*f== -1) && (*r== -1))
6      {
7          (*f)++, (*r)++, q[*f]=node;
8      }
9      else{
10         (*r)++, q[*r]=node;
11     }
12 }
13
14 int deleteq(int q[],int *f,int *r)
15 {
16     int temp;
17     temp=q[*f];
18     if(*f == *r) *f=*r=-1;
19     else (*f)++;
20     return temp;
21 }
22
23 void bfs(int n, int adj[][10],int src, int visited[])
24 {
25     int q[20], f=-1,r=-1,v,i;
26     insertq(q,src,&f,&r);
27     while((f <= r ) && (f != -1))
28     {
29         v=deleteq(q,&f,&r);
30         if(visited[v]!=1)
31         {
32             visited[v]=1;
33             printf("%d",v);
34         }
35         for(i=1;i<=n;i++)
36             if((adj[v][i]==1) && (visited[i] !=1))
37                 insertq(q,i,&f,&r);
38     }
39 }
40
41
42 int main()
43 {
44     int n,i,j,adj[10][10],src,visited[10];
```

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```
38     }
39     }
40
41
42     int main()
43     {
44         int n,i,j,adj[10][10],src,visited[10];
45         printf("enter number of vertices\n");
46         scanf("%d",&n);
47         printf("Enter adjacency matrix\n");
48         for(i=1;i<=n;i++)
49         {
50             visited[i]=0;
51             for(j=1;j<=n;j++)
52                 scanf("%d",&adj[i][j]);
53         }
54         printf("enter starting vertex\n");
55         scanf("%d",&src);
56         printf("The nodes reachable from src are\n");
57         bfs(n,adj,src,visited);
58     }
```



Console

Shell

```
> clang-7 -pthread -lm -o main main.c
> ./main
enter number of vertices
4
Enter adjacency matrix
0 1 0 1
0 0 0 1
1 1 0 1
0 0 0 1
enter starting vertex
1
The nodes reachable from src are
124> 
```

