

Code:

```
1  #include<stdio.h>
2  #include<conio.h>
3
4  void insertq(int q[],int node, int *f, int *r)
5  {
6      if((*f==-1) && (*r==-1))
7      {
8          (*f)++, (*r)++, q[*f]=node;
9      }
10     else{
11         (*r)++, q[*r]=node;
12     }
13 }
14
15 int deleteq(int q[],int *f,int *r)
16 {
17     int temp;
18     temp=q[*f];
19     if(*f == *r) *f=*r=-1;
20     else (*f)++;
21     return temp;
22 }
```

```
23
24 void bfs(int n, int adj[][10],int src, int visited[])
25 {
26     int q[20], f=-1,r=-1,v,i;
27     insertq(q,src,&f,&r);
28     while((f <=r ) && (f != -1))
29     {
30         v=deleteq(q,&f,&r);
31         if(visited[v]!=1)
32         {
33             visited[v]=1;
34             printf("%d",v);
35         }
36         for(i=1;i<=n;i++)
37             if((adj[v][i]==1) && (visited[i] !=1))
38                 insertq(q,i,&f,&r);
39     }
40 }
41
```

```

41     void main()
42     {
43         int n,i,j,adj[10][10],src,visited[10];
44         //clrscr();
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         getch();
59     }

```

Output:

```

enter number of vertices
4
Enter adjacency matrix
1 1 0 1
0 0 0 1
0 1 0 1
1 1 0 0
enter starting vertex
1
The nodes reachable from src are
124

...Program finished with exit code 255
Press ENTER to exit console.

```