

Write a program to traverse a graph using BFS method.

```
#include <stdio.h>
#include <stdlib.h>
#define MAX 20

int queue[MAX];
int front=0;
int rear=-1;
int visited[MAX];

void enqueue(int val){
    if(rear==MAX-1){
        return;
    }

    rear++;
    queue[rear]=val;
}

int dequeue(){
    if(front==-1 || front>rear){
        return -1;
    }

    int c=queue[front];
    front++;
    return c;
}
```

```
void graph(int G[MAX][MAX],int st,int v){  
    visited[st]=1;  
    enqueue(st);  
    int k;
```

```
    while(front<=rear){  
        k=dequeue();  
        printf("%d\n",k);  
        for(int i=0;i<v;i++){  
            if( G[k][i]==1 && visited[i]!=1){  
                enqueue(i);  
                visited[i]=1;
```

```
            }  
        }  
    }
```

```
}
```

```
int main(){  
    int v;  
    int G[MAX][MAX];  
    printf("enter no of vertices\n");  
    scanf("%d",&v);  
  
    printf(" enter adjacency matrix\n");  
    for(int i=0;i<v;i++){  
        for(int j=0;j<v;j++){
```

```

    scanf("%d",&G[i][j]);

}

}

int st;

printf("enter starting vertex\n");

scanf("%d",&st);

graph(G,st,v);

return 0;
}

```

Output:

```

enter no of vertices
4
enter adjacency matrix
0 1 1 0
1 0 1 1
1 1 0 0
0 1 0 0
enter starting vertex
0
0
1
2
3

```