```
Enter number of vertices: 4
Enter adjacency matrix of the graph:
0 1 1 0
1 0 1 1
1 1 0 1
0 1 1 0
Enter starting vertex for BFS: 0
BFS Traversal: 0 1 2 3

Process returned 0 (0x0)   execution time : 23.615 s
Press any key to continue.
```

```c
#include <stdio.h>
#include <stdlib.h>

#define MAX 100

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

void enqueue(int v) {
    if (rear == MAX - 1)
        printf("Queue Overflow\n");
    else {
        if (front == -1)
            front = 0;
        rear++;
        queue[rear] = v;
    }
}

int dequeue() {
    int v;
    if (front == -1 || front > rear)
        return -1;
    else {
        v = queue[front];
        front++;
        return v;
    }
}

void BFS(int adj[MAX][MAX], int n, int start) {
    int i, current;

    for (i = 0; i < n; i++)
        visited[i] = 0;

    enqueue(start);
    visited[start] = 1;

    printf("BFS Traversal: ");
```

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	Project	Projectfile

```
        visited[i] = 0;

    enqueue(start);
    visited[start] = 1;

    printf("BFS Traversal: ");

    while ((current = dequeue()) != -1) {
        printf("%d ", current);

        for (i = 0; i < n; i++) {
            if (adj[current][i] == 1 && !visited[i]) {
                enqueue(i);
                visited[i] = 1;
            }
        }
    }
    printf("\n");
}

int main() {
    int n, i, j, start;
    int adj[MAX][MAX];

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

    printf("Enter adjacency matrix of the graph:\n");
    for (i = 0; i < n; i++)
        for (j = 0; j < n; j++)
            scanf("%d", &adj[i][j]);

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

    BFS(adj, n, start);

    return 0;
}
```

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