

## Level Order Traversal

```
#include <stdio.h>
#include <stdlib.h>
#define MAX 500

struct node
{
    int data;
    struct node *left;
    struct node *right;
};

struct node *newNode(int data)
{
    struct node *temp = (struct node *)malloc(sizeof(struct node));
    temp->data = data;
    temp->left = temp->right = NULL;
    return temp;
}

struct node **createQueue(int *front, int *rear)
{
    struct node **queue = (struct node **)malloc(sizeof(struct node *)*MAX);
    *front = *rear = 0;
    return queue;
}

void enqueue(struct node **queue, int *rear, struct node *newNode)
{
    queue[(*rear)++] = newNode;
}

struct node *dequeue(struct node **queue, int *front)
{
    return queue[(*front)++];
}

int isEmptyQueue(int *rear, int *front)
{
    return ((*rear) == (*front));
}

void getLevelOrder(struct node *root)
{
    int front, rear;
    if(root)
    {
        struct node **queue = createQueue(&front, &rear);
        struct node *temp;
        enqueue(queue, &rear, root);
        while(!isEmptyQueue(&rear, &front))
```

```

        {
            temp = dequeue(queue, &front);
            printf("%d\t", temp->data);
            if(temp->left)
                enqueue(queue, &rear, temp->left);
            if(temp->right)
                enqueue(queue, &rear, temp->right);
        }
    }

int main()
{
    struct node *root=NULL;
    root = newNode(10);
    root->left = newNode(20);
    root->right = newNode(30);
    root->left->left = newNode(40);
    root->right->left = newNode(50);
    root->right->right = newNode(60);
    getLevelOrder(root);
    return 0;
}

```

Time complexity:  $O(n)$

Space complexity:  $O(n)$