

Inorder Traversal without using Stack

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

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;
}

void printinorderWithoutStack(struct node *root)
{
    struct node *currNode, *preNode;
    currNode = root;
    while(currNode)
    {
        if(!currNode->left)
        {
            printf("%d\t", currNode->data);
            currNode = currNode->right;
        }
        else
        {
            preNode = currNode->left;
            while(preNode->right && preNode->right!=currNode)
                preNode = preNode->right;
            if(!preNode->right)
            {
                preNode->right = currNode;
                currNode = currNode->left;
            }
            else
            {
                printf("%d\t", currNode->data);
                preNode->right = NULL;
                currNode = currNode->right;
            }
        }
    }
}

int main()
```

```
{
    struct node *root = newNode(10);
    root->left = newNode(8);
    root->right = newNode(2);
    root->left->left = newNode(3);
    root->left->right = newNode(5);
    root->right->right = newNode(2);
    printinorderWithoutStack(root);
    return 0;
}
```

Time complexity: $O(n)$

Space Complexity: $O(1)$