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GRP:S6

Experiment - Implementation of recursive tree traversals.

```
#include <iostream>
using namespace std;
struct node
{
    int data;
    node *left;
    node *right;
};

void preorder_recursive_traversal(node *root)
{
    node *temp=root;
    if(temp!=NULL)
    {
        cout<<temp->data<<" ";
        preorder_recursive_traversal(temp->left);
        preorder_recursive_traversal(temp->right);
    }
}

void postorder_traversal(node *root)
{
    node *temp=root;
    if(temp!=NULL)
    {
        preorder_recursive_traversal(temp->left);
        preorder_recursive_traversal(temp->right);
        cout<<temp->data<<" ";
    }
}

void inorder_traversal(node *root)
{

```

```

    node *temp=root;
    if(temp!=NULL)
    {
        preorder_recursive_traversal(temp->left);
        cout<<temp->data<<" ";
        preorder_recursive_traversal(temp->right);
    }
}

```

```

node *creat_node(int data)
{
    node *new_node = new node;
    new_node->data = data;
    new_node->left = NULL;
    new_node->right = NULL;
    return new_node;
}

```

```

//
//          452
//        /   \
//      236   963
//     /  \  /  \
//    23  98 49  93
//   /  \
//  55  0
//

```

```

int main()
{
    node *root = creat_node(452);
    node *a = creat_node(236);
    node *b = creat_node(963);
    node *c = creat_node(23);
    node *d = creat_node(98);
    node *e = creat_node(49);
    node *f = creat_node(93);
    node *g = creat_node(55);
    root->left = a;
    root->right = b;
    a->left=c;
    a->right=d;
    b->left=e;
    b->right=f;
    c->left=g;
    cout<<"Preorder Tree traversal:";
}

```

```
preorder_recursive_traversal(root);  
cout<<"\nInorder Tree Traversal:";  
inorder_traversal(root);  
cout<<"\nPostorder Tree Traversal:";  
postorder_traversal(root);  
}
```

OUTPUT:

Preorder Tree traversal:452 236 23 55 98 963 49 93

Inorder Tree Traversal:236 23 55 98 452 963 49 93

Postorder Tree Traversal:236 23 55 98 963 49 93 452
