

## TASK-09

Create a menu driven program for Binary Trees

Use array based implementation for Trees. Take inputs from user.

### Code:

```
#include<iostream>
using namespace std;
char tree[15];
void setroot(char val)
{
    if(tree[0]=='\0')
    {
        tree[0]=val;
    }
    else
    {
        cout<<"Root node already exist....."<<endl;
    }
}

int searchnode(char val)
{
    int index=-1;
    for (int i=0 ; i<15 ;i++)
    {
        if(tree[i]==val)
        {
            index=i;
            break;
        }
    }
    return index;
}

void setleft(char p,char lc)
{
    int lindex=searchnode(p);
    if(lindex!=-1)
    {
```

```
        cout<<"given node is not in list...."<<endl;
    }
    else
    {
        tree[(2*lindex)+1]=lc;
    }
}
void setright(char p,char rc)
{
    int rindex=searchnode(p);
    if(rindex==-1)
    {
        cout<<"given node is not in list...."<<endl;
    }
    else
    {
        tree[(2*rindex)+2]=rc;
    }
}
void printtree()
{
    cout<<"nodes in tree are as follows....."<<endl;
    for(int i=0 ; i<15 ;i++)
    {
        if(tree[i]!='\0')
        {
            cout<<tree[i]<<endl;
        }
        else
        {
            cout<<"--"<<endl;
        }
    }
}
int main()
{
    int choise;
    char val,cons;
    char p,lc,rc;
    do
```

```
{
    cout<<"enter your choise..."<<endl;
    cout<<"\tpress 1 for set root..."<<endl;
    cout<<"\tpress 2 for set leftchild..."<<endl;
    cout<<"\tpress 3 for set rightchild..."<<endl;
    cout<<"\tpress 4 for  search node..."<<endl;
    cout<<"\tpress 5 for print tree..."<<endl;
    cin>>choise;
    if(choise==1)
    {
        cout<<"enter the node you want to set root node"<<endl;
        cin>>val;
        setroot(val);
    }
    if(choise==2)
    {
        cout<<"enter value you want to set on left child"<<endl;
        cin>>p;
        cin>>lc;
        setleft(p,lc);
    }
    if(choise==3)
    {
        cout<<"enter value you want to set on right child"<<endl;
        cin>>p;
        cin>>rc;
        setright(p,rc);
    }
    if(choise==4)
    {
        cout<<"which node you want to search...."<<endl;
        cin>>val;
        searchnode(val);
    }
    if(choise==5)
    {
        printtree();
    }
    if(choise==6)
    {
```

```
        cout<<"SORRY!!INVALID CHOISE"<<endl;
    }
    cout<<"press c for continue or press any other key for exit"<<endl;
    cin>>cons;

}
while(cons=='c');
```