



Binary Tree - Array

Methodology and Program

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Semester 3: Data Structures

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```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
#define MAX 100
int ary[MAX];

void insert(int data,int pos)
{
    if(pos==MAX-1)
        printf("Array is full.\n");
    else
    {
        if(ary[pos]==-1)
            ary[pos]=data;
        else
        {
            if(ary[pos]>data)
            {
                pos=2*(pos)+1; //left child position
                insert(data,pos);
            }
            else
            {
                pos=2*(pos)+2; //right child position
                insert(data,pos);
            }
        }
    }
}
```

```
void preorder(int pos) //OR can use inorder or postorder as asked
{
    if(ary[pos]!=-1)
    {
        printf("%d\t",ary[pos]);
        preorder(2*(pos)+1);
        preorder(2*(pos)+2);
    }
}

void main()
{
    int i,n,data;
    clrscr();

    for(i=0;i<MAX;i++)
    {
        ary[i]=-1;
    }
    printf("Enter the number of elements:");
    scanf("%d",&n);
    printf("\nEnter the elements:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&data);
        insert(data,0);
    }
    preorder(0);
    getch();
}
```