	_ `
Binas. To	
Bivary Tree:	
#includesotdio.h>	
#include < stdlib.h>	
#incoleade < strize h>	
Visited a to it is a second	
Strut node	
Q 27 18 37 18 31 11 11 11 11 11 11 11 11 11 11 11 11	_
ind info:	
sthut node * link;	
Stut node *rlink;	
}	
typedel street node *NODE;	
There was Nove	
Moor Lall	
NODE getnodel)	
NODE X)	,
x=(NODE) mallo (size of (struct node));	
if (x == NULL)	
Q	
printf ("Memory full \n");	
exit(0);	
2	
& >-1 o > '	
Freturn X;	
}	
void flee node (NODESK)	
{	The state of the s
flee (x);	And the State of t
}	
	and the second of the second of
	The second second second second
	A STATE OF THE PARTY OF THE PAR

```
NODE insert (int item, NODE hoot);
       NODE temp, cus, psu:
       char direction [10];
       int is
       teup = getnode();
       temp - info = item;
        temp + blink= NULLi
       teup -> llink = NULL;
       if (root == NULL)
         return temp;
       plintf(" brine the dilection to insert \n");
        Stant (" xd", dilection);
        plev = NULL;
        5004 = 1004;
        for (i=0; i < str len (direction) & cur!=NULL) i++)
             plev = (ur)
             if (direction [i] == 'L')
                cus = cus > llink;
               cur = cur -> rlink;
        if (wr!= NULL 11 il = strlen (direction))
          Birth (" Insertion not possible In");
           flee dlode (temp);
          return (2007)
       if (wr== NULL)
           if (direction [i-]== 'e')
               Ber- Llink = temp;
               plon -) & link = temp.
Jagod (MO4);
```

```
You'd preorder (NODE root)
  ib (hoot!=NULL)
        Print[" The estern is y.d \n", root-)info];
          ple order ( root > dink);
         Probler ( hoot -> klink);
 Void inorder (NODE root)
if (root != NULL)
      inorder (root -> clink)
       print["The item is y.d\n", soot > info);
       inorder (root -> rlink);
(Moid post-order (NOOL root)
if (200+1=NULL)
  postorder (root - llink);
     postosder (not-) rlink);
     Printf ("The item is x.d \n" 200+ + info);
Void display (NODE root, inti)
 il thi
ib (2004 != NULL)
 display (root > rlink, i+1):
      (o)(j=1)j(=i; j++)
              print(" ");
   Printpolity and, root-sinto);

outplay (2001-) llink; i+1);
```

	——¬
YOU WART) NODE insest but (NODE troot, int item)	
NODE temp, cur, pru;	
temp= getnode();	
deuxp-) rlink = NULL;	
Jenp - Mink = NULL	
temp -> into = item;	
if (root == NULL)	
return temp;	 ;
prev = NULL;	
cur = root;	
while (aux!=NULL)	
Survey and a surve	
prev = cur; cur = (item < cur > info) ! cur > llink: cur > llink;	
?	
if (idem < prev -> into)	
else	1
prev -> rlink = temp;	
return root;	
11005 110 (11000 1 4 114 1814)	
NODE delete (NODE 200+, itst i Ztem)	
NODE wy, parent, q, suc;	
if (roof == NULL)	
printf ("Empty \n");	
return root;	
J ANIII I Y	
parent = NULL;	
cur=root;	

```
fulle (cur!=NULL ed item!=cursinto)
       Cur = (ifem < cur > info)? cur > llink: cur > r link);
        parent = cur;
    if (wr == NULL)
      prints ("not found h");
      return hout;
  it (cur -> llink = NULL)
       g= cur > rlink;
    else if (us -rlink == NULL)
      q=cur-llink;
  elso
      Suc = cur > plink;
       while ( sec - slink! = NULL)
       Suc = Suc-Allink;
       Suc - llink = cur -> llink;
       g= cur-> rlink;
if (parent == NULL)
return q;
if (cur == parent -> blink)
  parent - Illink = 9;
 porent -> slink =9;
freewode (cur);
 return root;
```

```
void main ()
  NODE YOOF = NALL?
  int choice, i, item)
  for (3:)
      printf [" 1. injert In 2. injert in biney thee In 3. Delete Element In te
              4. preorder \n 5. interder \n 6. Post order \n 7. Duplaymili
      plintf (" Enter. The choice In");
      dranf ("Xd", Lelloice);
     dwitch (choice)
         case 1: printf (" knotes the item");
                  Scary ("/d" & jtem);
                  root = injert (ifen, root);
         Cose 2: print[-("Enter The item"))
                 scouf ("x.d", xitan);
                 root = injert_bst(root,iten);
         Cox 3: printf ("Enter the item");
                Scarf ("Y.d", ditum);
                root = delete (root, idem);
                bleak;
       Use 4: ib (root == NULL)
                 print ("Tree is empty");
               ele
                print[ (" Criven tree is In");
                display (root, 1);
                printf("The preorder themers is hi");
                preorder (root);
classaate
```

corse 2: if (yout == NULL)	
printf ("the is empty")	
printfl the inempro	
else	
2	
psintf ("Crinen tee o \n");	
display (root, 1):	
display (root, 1); Printy ("the result of the result of t	
inorder (root);	
2	
bleek)	
- cose 6: if (root == NULL)	
t August and the second and the seco	
- printf-(" Tree is empty \n");	
(typinson) 130 (c)	
else	
- Land to the first of the second	
Printf (" Crinen Hee \n");	
display (root, 1)	
plintf ("the postolder Hanessalis \n");	
postordu (root);	
2	
break;	
Case 7: display (root, 1);	
Lilesk)	
default: exit (0);	
3	
3	
3	
Not well in the second of the	
	And the second second second second

```
1.insert
2.preorder
3.inorder
4. postorder
5.display
enter the choice
enter the item
12
1.insert
2.preorder
3.inorder
4. postorder
5.display
enter the choice
enter the item
give direction to insert
1.insert
2.preorder
3.inorder
4.postorder
5.display
enter the choice
enter the item
14
give direction to insert
1.insert
2.preorder
3.inorder
4. postorder
5.display
enter the choice
1
enter the item
```

```
enter the item
15
give direction to insert
11
1.insert
2.preorder
3.inorder
4.postorder
5.display
enter the choice
enter the item
16
give direction to insert
lr
1.insert
2.preorder
3.inorder
4.postorder
5.display
enter the choice
5
    14
  12
      16
    13
      15
1.insert
2.preorder
3.inorder
4.postorder
5.display
enter the choice
```

```
given tree is
                 14
  12
      16
    13
      15
the preorder traversal is
the item is 12
the item is 13
the item is 15
the item is 16
the item is 14
1.insert
2.preorder
3.inorder
4. postorder
5.display
enter the choice
given tree is
    14
  12
      16
    13
      15
the inorder traversal is
the item is 15
the item is 13
the item is 16
the item is 12
the item is 14
1.insert
preorder
3.inorder
4.postorder
5.display
enter the choice
```

4

```
1.insert
2.preorder
3.inorder
4.postorder
5.display
enter the choice
7
given tree is
    14
  12
      16
    5
the postorder traversal is
the item is15
the item is16
the item is13
the item is14
the item is12
1.insert
2.preorder
3.inorder
4.postorder
5.display
```

```
1.insert
2.display
3.pre
4.post
5.in
6.delete
7.exit
enter the choice
1
enter the item
15
1.insert
2.display
3.pre
4.post
5.in
6.delete
7.exit
enter the choice
enter the item
16
1.insert
2.display
3.pre
4.post
5.in
6.delete
7.exit
enter the choice
enter the item
14
1.insert
2.display
3.pre
4.post
5.in
6.delete
7.exit
enter the choice
enter the item
12
```

```
1.insert
2.display
3.pre
4.post
5.in
6.delete
7.exit
enter the choice
enter the item
13
1.insert
2.display
3.pre
4.post
5.in
6.delete
7.exit
enter the choice
  16
15
  14
      5 E
    17
1.insert
2.display
3.pre
4.post
5.in
6.delete
7.exit
enter the choice
enter the item
17
```

```
1.insert
2.display
3.pre
4.post
5.in
6.delete
7.exit
enter the choice
7
  16
14
    FE
1.insert
2.display
3.pre
4. post
5.in
6.delete
7.exit
enter the choice
```