Hofman de
WAP
2) To construct a binary search tree
b) To traverse the tree using Proorder, preorder &
postorder
c) display elements of tree
#include < stdio.h>
ipelude (stdlip h)
stand mode &
int info;
stauct node * rlink;
At much mode * Ilink;
3:
typedel struct node * Mode;
Node getnode()
\$
Node x;
x = (Node) mallor (sixely (struct rode));
$\frac{\chi = (Node > 1)}{1 + (-\chi = NULL)}$
$\frac{1+(x=NO(1))}{x}$
<u> </u>
printf (" mem full \n");
exit(0);
3
Heturn X;
3

```
void free node ( Mode x)
    free (x);
Node insent ( Mode root, int item)
 3 WEG TO THE STATE OF THE STATE
Mode temp, cur, prev;
     temp = getnode();
          temp > rink = hull;
       temp - Ilink = NULL;
         temp - info = item;
            if ( root = = NULL)
                     Heturn temp;
                       prev = NULL;
                       Cust = root;
                    while (cust = MULL)
                       prev = cusi;
                           cun = (item < cun > info) ? cun -> 11ink : cun >
                         rlink;
                          if (item < prev -) info)
                             brev > llink = temp;
                                  else
                            brev - rlink = temb;
                                      return toot;
```

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```

```
void display ( Mode root, int i)?
 int is
 if (root) = NULL) &
 display (root > rink, i.1);
   for (j=0;j\1;j+t)
     printf ( " dod/n", root > info);
    display (toot -> llink, itl);
  void preorder (Node root)
  Pf (root) = MUIL)
  printf ( "dod/n", root - info);
  preorder (root->119nk);
   brearder (root > tlink);
   Void postorder (Node root)
     ?f (root) = NULL)
      postorder (root -> llink);
        -bostorder Croot-rlink);
        printf (" olad /n", root > Patro);
```

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void inorder (Mode root)
  if croon = MULL)
  inorder (root - 11ink);
 print (" dod/n", root - info);
   inorder ( root - rlink);
int main U
 int item, choice;
Mode Toot = MULL;
 for (ii) 2
printf (" m! incent / n 2. display / m 3. preorder
In 4 postorder Ins. morder In 6. exit In);
 brinif ( " Enter choice (n");
 Scanf (" dod", & choice);
   switch (choice){
   ease: printf( " Enter item \n");
          Scanf (" dod", Titem);
            root = insert (toot, item);
        break;
       cases: display (root, 0);
          break
```

case 3: preorder (root);
break;

case 4: postorder (root);

case 5: inorder (root);
break;

dejault: exit(D);

break;

}

<u>}</u>

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with the first of the same
          Expected Coutput : -
                  (100 pt (15 1) )
                 CASE AL INGEREST ....
           insert
           display
    1. 3 rankrebrden ). who box was.
       4.
          postorder
           inorder
                        Line He
Copania Ca exitingly out " ) ming
       Enter choice:
                 (1144) 11 = F) 11
        1
        Enter Waltem Haraley of haras
             (HU) The L) li
        15
           : (10 1) wholen
       (venter choice 1) hing
         Enter item
         حر
         Enter
                choice
         Enter item
```

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Enter enoice:
  a Enter often with the law torne
entered 7 proces into the
            croice : 1/1 moly
     Enter
      1
      Enter item
      90
            choice
       Enter
       1
       Enter litem would be those been
        34
          1 Almin Later Paris to planning
       Enter choice hacing
        2
             90
         1 34 Per C
            15
       Enter choice: 11
        5
         2
          34
          67
          90
```

```
Enter choice:
    3
    15
    2
    67
     34
Complete a lance stand I toman should
            i Varefronillo - Anol about
            chofée about of a forth
    Enter
            ..... il Will and Mills Co forth the
    4
           Elleth with prob
    2
            anott this work -
    34
             CHUM. .. I read the .....
    90
              frank weekelen
    67
                    12 Million William .
     15
        ( Heller I has a studies
```