Assignment - 4

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Course Name : Data Structure

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Develop a C program to implement the tree traversal (inOrder, preOrder, postOrder)

```
#include <stdio.h>
#include <stdlib.h>
typedef struct node {
    int data;
    struct node * left * right;
} node;
void preOrder (node * root) {
    if (root == NULL) {
        return;
    }
    printf ("%d" root -> data);
    preOrder (root -> left);
    preOrder (root -> right);
}
void inOrder (node * root) {
    if (root == null) {
    return;
    }
    inOrder (root -> left);
    printf ("%d", root -> data);
    inOrder (root -> right); }
void postOrder (node * root) {
    if (root == null) {
```

```
    return ; }
postOrder ( root -> left );
postOrder ( root -> right );
printf ("%d", root -> data);

}
int main () {
printf (" preOrder Traversal : ");
 preOrder (root);
  printf ("\n");
 printf (" InOrder Traversal :");
   inOrder (root);
   printf ("\n");
  printf ("postOrder Traversal :");
   postOrder (root);
    printf ("\n");

     return 0;

      }
```

construct AVL tree for the following elements
3, 2, 1, 4, 5, 6, 7 followed by 16, 15, 14 in reverse order

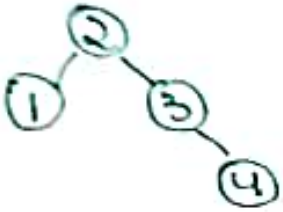
insert 3:

insert 2:

insert 1

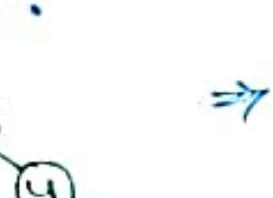
(unbalanced with towards right at 3)

insert 4:

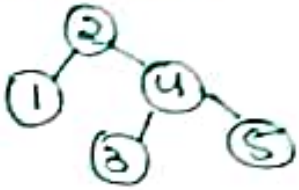


insert 5:

(unbalanced)

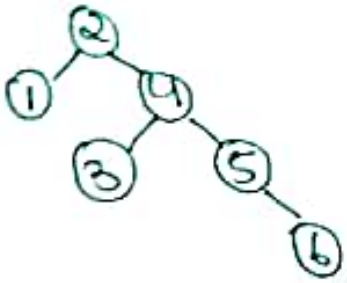


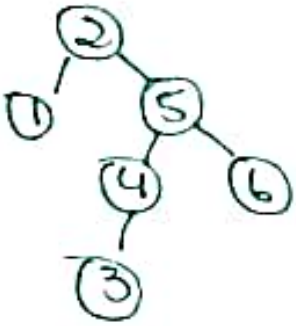
insert 5:



(balanced)

insert 6:





insert 7: