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1: #include<stdio.h>
2: #include<sys/types.h>
3: #include<stdlib.h>
4: #include<unistd.h>
5: #include<fcntl.h>
6: #define BUF_SIZE 4096
7: typedef char element;
8: typedef struct treeNode{
9:     int key;
10:    struct treeNode* left;
11:    struct treeNode* right;
12: }treeNode;
13:
14: treeNode* insertNode(treeNode *p,int x){
15:     treeNode* newNode;
16:     if(p==NULL){
17:         newNode=(treeNode*)malloc(sizeof(treeNode));
18:         newNode->key=x;
19:         newNode->left=NULL;
20:         newNode->right=NULL;
21:         return newNode;
22:     }
23:     else if(x<p->key)p->left=insertNode(p->left,x);
24:     else if(x>p->key)p->right=insertNode(p->right,x);
25:     else printf("\n i\235'ë",ë°\231i\235\200 i\202ë°\200
i\236\210i\212pë\213\210ë\213°. \n");
26:
27:     return p;
28: }
29:
30:
31: void preorder(treeNode* root){
32:     if(root){
33:         printf("%d ",root->key);
34:         preorder(root->left);
35:         preorder(root->right);
36:     }
37: }
38:
39: void inorder(treeNode* root){
40:     if(root){
41:         inorder(root->left);
42:         printf("%d ",root->key);
43:         inorder(root->right);
44:     }
45: }
46:
47: void postorder(treeNode* root){
48:     if(root){
49:         postorder(root->left);
50:         postorder(root->right);
51:         printf("%d ",root->key);
52:     }
53: }
54: int main(int argc,char *argv[])
55: {
56:     int a;
57:     FILE *in;
58:     if(argc!=2)exit(1);
59:     in=fopen(argv[1],"r");
60:     if(in == NULL)exit(2);
61:     fscanf(in,"%d",&a);
62:     int m[a],i=0;
63:     while(1)
64:     {
65:         if(i==a)break;
66:         fscanf(in,"%d",&m[i]);

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67:         i++;
68:     }
69:     printf("%d\n",a);
70:     for(int z=0;z<i;z++){
71:         printf("%d\n",m[z]);
72:     }
73:     fclose(in);
74:
75:     treeNode *root =NULL;
76:     root = insertNode(root,m[0]);
77:     for(int q=1;q<a;q++){
78:         insertNode(root,m[q]);
79:     }
80:     printf("i \204i\234\204i\210\234i\232\214\n");
81:     preorder(root);
82:     printf("\ni\221i\234\204i\210\234i\232\214\n");
83:     inorder(root);
84:     printf("\ni\233\204i\234\204i\210\234i\232\214\n");
85:     postorder(root);
86:     printf("\n");
87:     return 0;
88: }

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