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//Created By Ritwik Chandra Pandey on 30th March 2021
//183215
//Evaluation of Expression Trees
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#include<stdio.h>
#include<malloc.h>
struct tree {
    char data;
    struct tree *left;
    struct tree *right;
};
typedef struct tree * ENODE;
ENODE stack[30];
int top = -1;
ENODE newnode(char ch) {
    ENODE temp;
    temp = (ENODE)malloc(sizeof(struct tree));
    temp->data = ch;
    temp->left = NULL;
    temp->right = NULL;
    return(temp);
}
void push(ENODE temp) {
    stack[++top]=temp;
}
ENODE pop() {
    ENODE p;
    p=stack[top--];
```

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return(p);
}
char eval(ENODE root) {
    if(root == NULL)
return o;
    if(root->left==NULL && root->right==NULL)
return root->data-'o';
    int l_val = eval(root->left);
int r_val = eval(root->right);
    if(root->data == '+')
return l_val + r_val;
    if(root->data == '-')
return l_val - r_val;
    if(root->data == '*')
return r_val*l_val;
    return l_val/r_val;
}
void main() {
char postfix_exp[20];
    ENODE temp,t;
int j,i;
    printf("Enter a postfix expression : ");
scanf("%s",postfix_exp);
    for(i=0;postfix_exp[i]!='\0';i++) {
if(postfix_exp[i]=='*' || postfix_exp[i]=='/' || postfix_exp[i]=='+' || postfix_exp[i]=='-') {
        temp=newnode(postfix_exp[i]);
temp->right=pop();
        temp->left=pop();

```

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push(temp);}else {  
    temp=newnode(postfix_exp[i]);  
push(temp);}  
    printf("Result of postfix expression is : ");  
printf("%d\n",eval(temp));  
}
```