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ASSIGNMENT 9

PROBLEM STATEMENT : In any language program mostly syntax error occurs due to unbalancing delimiter such as (),{},[]. Write C++ program using stack to check whether given expression is well parenthesized or not.

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#include<iostream>

using namespace std;

#define size 30

int main()

{

char stk[size],exp[size],ans;

int top,i;

do

{

top=-1;

cout<<"Enter the expression\t";

cin>>exp;

for(i=0;exp[i]!='\0';i++)

{

if(exp[i]=='(' || exp[i]=='[' || exp[i]=='{')

{

top++;

stk[top]=exp[i];

}

else if(exp[i]==')')

{

if(stk[top]=='(')

{

top--;

}

else

{

cout<<"Given expression is not well parenthesized"<<endl;

return 0;

}

}

else if(exp[i]==']')

{

if(stk[top]=='[')

{

top--;

}

else

{

cout<<"Given expression is not well parenthesized"<<endl;

return 0;

}

}

else if(exp[i]=='}')

{

if(stk[top]=='{')

{

top--;

}

else

{

cout<<"Given expression is not well parenthesized"<<endl;

return 0;

}

}

}

if(top==-1)

{

cout<<"Given Expression well is Parenthesized"<<endl;

}

else

{

cout<<"Given expression is not well parenthesized"<<endl;

}

cout<<"Do You Want to continue??\t";

cin>>ans;

}while(ans=='y');

return 0;

}

