**PROGRAM:**

#include<iostream>

#include<stack>

using namespace std;

class parenthesis

{

public:

bool pairing(char a,char b)

{

if(a=='('&&b==')')

return true;

if(a=='['&&b==']')

return true;

if(a=='{'&&b=='}')

return true;

else

return false;

}

bool Balance(string exp)

{

stack<char> s;

int i;

for(i=0;i<exp.length();i++)

{

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

s.push(exp[i]);

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

{

if(s.empty()||!pairing(s.top(),exp[i]))

return false;

else

s.pop();

}

}

return s.empty()?true:false;

}

};

int main()

{

parenthesis obj;

char exp[100];

char ch;

do

{

cout<<"\nENTER THE EXPRESSION\n";

cin>>exp;

if(obj.Balance(exp)==false)

cout<<"\nEXPRESSION ENTERED IS NOT BALANCED WITH RESPECT TO BRACES\n";

else

cout<<"\nEXPRESSION ENTERED IS BALANCED\n";

cout<<"\ndo you want to continue?\n";

cin>>ch;

}while(ch=='y'|| ch=='Y');

}

**OUTPUT:**

ENTER THE EXPRESSION

((a+b)-c)+{[b\*c}]

EXPRESSION ENTERED IS NOT BALANCED WITH RESPECT TO BRACES

do you want to continue?

y

ENTER THE EXPRESSION

(a+b)

EXPRESSION ENTERED IS BALANCED

do you want to continue?

y

ENTER THE EXPRESSION

(((a)+b)-c+d)\*{c+f}-[b-g]

EXPRESSION ENTERED IS BALANCED

do you want to continue?

n