CODE:

#include <iostream>

/\* run this program using the console pauser or add your own getch, system("pause") or input loop \*/

using namespace std;

char stack[10];

int size=5;

int top=-1;

int stack\_Empty()

{

if(top==-1)

return 1;

else

return 0;

}

int stack\_Full()

{

if(top==size-1)

return 1;

else

return 0;

}

void push(char ch)

{

top++;

stack[top]=ch;

}

char pop()

{

char x=stack[top];

top--;

return x;

}

void display()

{

for(int i=0;i<=top;i++)

cout<<""<<stack[i];

}

void check\_expression()

{

char expr[10],ch;

int i;

cout<<"\nEnter the expression:";

cin>>expr;

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

{

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

{

if(!stack\_Full())

push(expr[i]);

else

cout<<"\n can't push as stack full\_\_\_!!!";

}

else

{

ch = pop();

if(expr[i]==')' && ch!='(')

{

cout<<"\n\t Expression is not well parenthesized";

push(ch);

break;

}

if(expr[i]==']' && ch!='[')

{

cout<<"\n\t Expression is not well parenthesized";

push(ch);

break;

}

if(expr[i]=='}' && ch!='{')

{

cout<<"\n\t Expression is not well parenthesized";

push(ch);

break;

}

}

}

if(!stack\_Empty())

cout<<"\n\tExpression is not well parenthesized";

else

cout<<"\n\tExpression is well parenthesized !!";

}

int main(int argc, char\*\* argv) {

cout<<"\*\*\* Checking whether expression is well parenthesized or not? \*\*\*";

check\_expression();

cout<<"\n\n";

return 0;

}

Output:



